The OIL and GAS JOURNAL

PRODUCING REFINING MARKETING

VOL. 23. NO. 49 TULSA, OKLAHOMA, APRIL 30, 1925

Copyright, 1925, by The Petroleum Publishing Co.

TABLE OF CONTENTS

SPECIAL ARTICLES

Light Oil Output Lowest This Year 19
By Andrew M. Rowley
Total crude production gains 72,100 bbls. daily due to Smackover. Gasoline crude off 6,154 bbls.

National Petroleum Association Meet (photograph) 21
By C. O. Willson
Semi-annual session at Cambridge Springs, Pa., marked by earnest discussion of practical refining problems.

Ranger Area Gets "Boom Time" Well (illustrated) 22
By C. D. Lockwood
Completion of good producer reason for great amount of wildcat drilling being done in that territory.

Smackover Heavy Near 300,000 Barrels 23
Some estimates place production at that figure. Average initial production falling. New pipe lines and storage.

Why Gasoline Prices Differ in East 24
By N. O. Fanning
Hudson River barrier for motorists and marketing organizations alike, causing variations in prices.

Gasoline Manufacturers' Convention 26
By Neil Williams
Fourth annual session best ever held. Educational value increased by general discussion of papers read.

Lubricating Value of Oils Used in Gasoline Plants 26
By C. A. Fitz-Gerrell

Concrete Conservation (Editorial) 28

Residue Gas Supply for Gasoline Plant Operations (graph) 64
By L. F. Bayer

Oil Securities Irregular but Dull 106
By N. O. Fanning

Fractionation With Pressure Stills (illustrated) 109
By I. B. Chittenden
Great strides made in the development of the tube and tank process. Changes in operation increase yield.

Saving Gasoline Vapors at Refineries 116
By B. B. Stroud
Elimination of evaporation losses and recovery of condensable vapors at McKean County plant.

Water Treatment in Gasoline Plants 117
By Emby Kaye
Prevention of rusting and scaling discussed before Association of Natural Gasoline Manufacturers with suggested remedies.

Safety in Gasoline Manufacturing 122
By C. L. Swim

FIELD OPERATIONS

Late Fields 30

North Central Texas 32
By George R. Kelley

Oklahoma 34
By J. L. Dwyer

Kansas 36
By J. L. Dwyer

North Louisiana-Arkansas 38
By M. L. Vaughn

East Central Texas 40

Gulf Coast 42
By P. L. McGreal

Southwest Texas 44

Mexico 44
By Gorge Blardone

Map of Lytton or Lockhart Area 46

California 50
By L. P. Stockman

Rocky Mountain Area 52
By F. B. Taylor

Canada 52
By Victor Lauriston

Kentucky-Tennessee 54
By Vern T. Whitney

Central West 54

Pennsylvania-West Virginia 58
By D. S. Wakenight

REFINING AND MARKETING

Oklahoma Gasoline Market Weakening 20
By Neil Williams
Effect of big purchase only temporary although some still hoping for best. Fuel oil continues softest feature.

Little Change in Refinery Operations 60
By C. O. Willson
For first time in several years total capacity fails to increase. Annual survey shows 385 plants operating.

Refining and Marketing News 108

Chicago Sales Record; Market Mixed 110
By J. B. Waldo

East Expects Tank Wagon to Hold 110
By N. O. Fanning

Refinery and Crude Prices 112-113

Tank Wagon Quotations 114

ARTICLES OF GENERAL INTEREST

The Advertisers Index 17

Men Known in Oildom and Personals 62

Natural Gas Developments 64

Equipment and Supplies 66

Steel Consumption Rate Holds 66
By B. E. V. Luty

Classified Wants Advertisements 98-99-100

Crude Petroleum Statistics 136

BE A REGULAR READER

The OIL and GAS JOURNAL Tulsa, Okla.

You are hereby directed to mail The Oil and Gas Journal to me for.....year. Enclosed find remittance $.....

Classify my interests as checked by me.

.....Producing .....Refining
.....Equipment .....Marketing

Name.....
Address.....
City.....

$6 a Year
$3 6 Month

The OIL and GAS JOURNAL

PRODUCING REFINING MARKETING

VOL. 23. NO. 49 TULSA, OKLAHOMA, APRIL 30, 1925

Copyright, 1925, by The Petroleum Publishing Co.

TABLE OF CONTENTS

SPECIAL ARTICLES

Light Oil Output Lowest This Year 19
By Andrew M. Rowley
Total crude production gains 72,100 bbls. daily due to Smackover. Gasoline crude off 6,154 bbls.

National Petroleum Association Meet (photograph) 21
By C. O. Willson
Semi-annual session at Cambridge Springs, Pa., marked by earnest discussion of practical refining problems.

Ranger Area Gets "Boom Time" Well (illustrated) 22
By C. D. Lockwood
Completion of good producer reason for great amount of wildcat drilling being done in that territory.

Smackover Heavy Near 300,000 Barrels 23
Some estimates place production at that figure. Average initial production falling. New pipe lines and storage.

Why Gasoline Prices Differ in East 24
By N. O. Fanning
Hudson River barrier for motorists and marketing organizations alike, causing variations in prices.

Gasoline Manufacturers' Convention 26
By Neil Williams
Fourth annual session best ever held. Educational value increased by general discussion of papers read.

Lubricating Value of Oils Used in Gasoline Plants 26
By C. A. Fitz-Gerrell

Concrete Conservation (Editorial) 28

Residue Gas Supply for Gasoline Plant Operations (graph) 64
By L. F. Bayer

Oil Securities Irregular but Dull 106
By N. O. Fanning

Fractionation With Pressure Stills (illustrated) 109
By I. B. Chittenden
Great strides made in the development of the tube and tank process. Changes in operation increase yield.

Saving Gasoline Vapors at Refineries 116
By B. B. Stroud
Elimination of evaporation losses and recovery of condensable vapors at McKean County plant.

Water Treatment in Gasoline Plants 117
By Emby Kaye
Prevention of rusting and scaling discussed before Association of Natural Gasoline Manufacturers with suggested remedies.

Safety in Gasoline Manufacturing 122
By C. L. Swim

FIELD OPERATIONS

Late Fields 30

North Central Texas 32
By George R. Kelley

Oklahoma 34
By J. L. Dwyer

Kansas 36
By J. L. Dwyer

North Louisiana-Arkansas 38
By M. L. Vaughn

East Central Texas 40

Gulf Coast 42
By P. L. McGreal

Southwest Texas 44

Mexico 44
By Gorge Blardone

Map of Lytton or Lockhart Area 46

California 50
By L. P. Stockman

Rocky Mountain Area 52
By F. B. Taylor

Canada 52
By Victor Lauriston

Kentucky-Tennessee 54
By Vern T. Whitney

Central West 54

Pennsylvania-West Virginia 58
By D. S. Wakenight

REFINING AND MARKETING

Oklahoma Gasoline Market Weakening 20
By Neil Williams
Effect of big purchase only temporary although some still hoping for best. Fuel oil continues softest feature.

Little Change in Refinery Operations 60
By C. O. Willson
For first time in several years total capacity fails to increase. Annual survey shows 385 plants operating.

Refining and Marketing News 108

Chicago Sales Record; Market Mixed 110
By J. B. Waldo

East Expects Tank Wagon to Hold 110
By N. O. Fanning

Refinery and Crude Prices 112-113

Tank Wagon Quotations 114

ARTICLES OF GENERAL INTEREST

The Advertisers Index 17

Men Known in Oildom and Personals 62

Natural Gas Developments 64

Equipment and Supplies 66

Steel Consumption Rate Holds 66
By B. E. V. Luty

Classified Wants Advertisements 98-99-100

Crude Petroleum Statistics 136

BE A REGULAR READER

The OIL and GAS JOURNAL Tulsa, Okla.

You are hereby directed to mail The Oil and Gas Journal to me for.....year. Enclosed find remittance $.....

Classify my interests as checked by me.

.....Producing .....Refining
.....Equipment .....Marketing

Name.....
Address.....
City.....

$6 a Year
$3 6 Month

Light Oil Output Lowest This Year

Average daily production in United States week ended April 25, 2,157,525 bbls. Gain from previous week, 72,100 bbls.

Total Crude Production Gains 72,100 Bbls. Daily Due to Smackover. Gasoline Crude off 6,154 Bbls.

By Andrew M. Rowley

Highest daily average estimated production this year, week ended April 25, 2,157,525 bbls. Lowest January 3, 1,911,730 bbls.

While the total crude oil production in all fields of the United States registered another big gain last week and established a new high record for the year, exceeding the peak of 1924 by 100,000 barrels, the output of the crude easily manufactured into gasoline dropped to the lowest point reached thus far this year, showing a decline of 6,154 barrels daily. The gain in total crude oil production during the past three weeks is 197,961 barrels daily while the output of light oil or gasoline content crude last week averaged 107,848 barrels a day less than it did during the week ending January 17 of this year.

The recently discovered deeper sand in the Smackover Field in Arkansas was again responsible for the big gain shown in total production, it being estimated at the close of last week the output of that sand was averaging about 242,000 barrels a day. The price of 40 cents a barrel for Smackover heavy crude has failed to result in any curtailment of operations in the field and pipe line runs during the past week indicate shipments of the heavy crude are keeping pace with the increased production.

Developments in the North Texas territory in reality are of more importance to the industry in general than the big output at Smackover. That area is the scene of considerable activity which is being rewarded with material increases in production of high gravity crude. The Reagan County Field is only one of the areas where substantial increases in production may be expected as wildcatters are busy over a wide expanse of territory. The bringing in of the largest well completed in the Ranger district since the boom days in that area is but an example of the possibilities of the entire North Texas district. Production of the North Texas area is higher now than it has been in two years and its output is the grade of oil highly desirable for refining operations.

Oklahoma showed a substantial decline in production during the past week due to a big drop in the Tonkawa Field and less heavy losses in the other major fields. The completion of a large number of wells in Greenwood County and other fields in Kansas resulted in a gain of more than 2,000 barrels a day in output of that State.

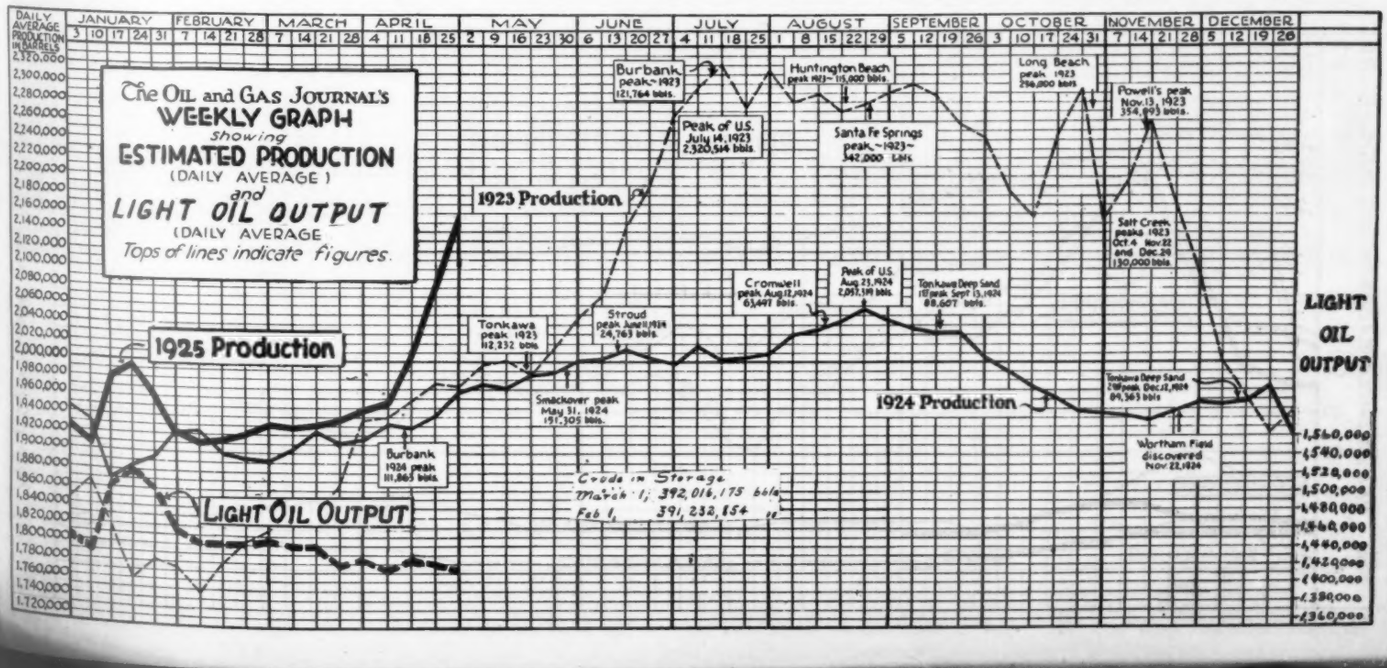
The period of flush production in the South Liberty Pool in Texas seems to have passed while the Lockhart Field is also becoming fairly well defined.

PRODUCTION IN THE UNITED STATES

Estimated daily average gasoline and non-gasoline crude oil production in the United States for the week ended April 25, and a comparison with the previous week follows:

	April 25		April 18	
Oklahoma—	Light	Heavy	Light	Heavy
Tonkawa	67,460		72,255	
Burbank	59,970		60,310	
Other Osage Fields	33,330		34,245	
Cushing and Shamrock	21,905		21,970	
Bristow and Eastern Bristow	34,135		33,795	
Cromwell	41,860		43,385	
Papoose	26,170		26,365	
Northern Miscellaneous	109,220		108,215	
Southern Fields	63,185		62,890	
Total Oklahoma	457,235		463,430	
North Louisiana	50,772		51,011	
Arkansas—				
El Dorado and Calion	9,285		9,345	
Smackover Light	30,530		30,445	
Smackover Heavy		284,820		206,560
Stephens and Nevada	3,515		3,500	
Total Arkansas	43,330	284,820	43,290	206,560
North Central Texas	157,390		155,290	
Powell	52,600		52,8000	
Mexia, Currie, Richland, etc.	28,770		29,190	
Wortham	56,700		58,700	
Kansas	87,765		85,625	
Total Mid-Continent Area	934,562	284,820	939,336	206,560
Gulf Coast		101,838		103,389
Southwest Texas		45,495		45,950
Eastern	104,450		104,200	
Rocky Mountain Area	90,360		90,990	
California—				
Santa Fe Springs	48,000		48,000	
Long Beach	114,000		114,000	
Huntington Beach	42,000		42,000	
Torrance	38,000		38,8000	
Dominguez	46,000		47,000	
Remainder of State		308,000		306,000
Total California	288,000	308,000	289,000	306,000
Total United States	1,417,372	740,153	1,423,526	661,899
Grand Total		2,157,525		2,085,425

→ Total Increase, 72,100 Bbls.; Light Oil Decrease, 6,154 Bbls. ←



Oklahoma Gasoline Market Weakening

Effect of Big Purchase Proves Only Temporary Although Some Still Hoping for Best. Fuel Oil Continues to Be Softest Feature

By Neil Williams

Other refining and marketing news will be found in the refining section, which starts on Page 108

Uncertainty permeated the entire Oklahoma (Group 3) refined market structure, especially in the 58-60 U. S. Motor gasoline and fuel oil, Tuesday. The sudden check in the steady decline of Motor gasoline the last two months caused by the unexpected Carter Oil Co. (Standard of New Jersey) purchase has proved only temporary and market observers have resumed their watchful waiting policy but hoping for the best.

The impetus given the motor gasoline market two weeks ago by the Carter Oil Co. buying 1,800 cars of approximately 15,000,000 gallons of gasoline began to wear off the latter part of last week and by Monday and Tuesday of this week it was clearly evident that the market was slipping again.

When the Carter company made its purchase it was generally felt among refiners, in particular, that the reaction which followed a similar purchase last year would not be duplicated this year but from all indications the market curve is following the same course. The same company made a 10,000,000-gallon purchase last spring but hardly had the product been taken up than the prices, which had been given a substantial boost, reacted and the market seemed weaker than before.

This year however, it was "doped" out that the purchase of 15,000,000 gallons, made over a period of 30 days, would hold the market long enough to tide the situation over until the late spring and summer demand could be felt and thus keep the price at least steady, if not boost it, until winter.

"Hand to Mouth" Buying

But on the other hand, jobbers and other buyers have not been able to believe that the new prices, occasioned by the New Jersey purchase this year were a true criterion of a sound market and have continued buying only from "hand to mouth." The expected rush to buy did not materialize, and, with many refiners known to have increased their crude runs to stills following the big purchase, the possible value of the transaction was lessened considerably.

However, it cannot be denied that the purchase was of great benefit to Group 3. While the market may be weakening again, sellers have been givn a temporary breathing spell and some who have been proceeding rather recklessly are able to see the conditions as they are.

Out of the market conditions of the last few weeks has developed a peculiar situation, which manifested itself strongly Monday and Tuesday. While many sellers were holding out for higher prices, others although holding quotations at the higher figure, were disposing of their products on the side with concessions. This situation was defined by some sellers as lack of confidence in each other.

What effect, if any, the good export demand for the higher gravities of gasoline may have on the motor gasoline is a matter of speculation at this time. The substantial buying of the higher gravities of gasoline, especially the 60-62 and the 64-66, has resulted in those grades being extremely strong. While the purchasing of these grades began in North Central Texas, they became so scarce there that the buying has extended to Oklahoma plants, thus strengthening the Group 3 market.

Export Buying Aids

A substantial improvement in the domestic market of these grades has followed the export buying, and this situation in the higher gravities may have a tendency to hold a rein on the downward trend of motor gasoline. With the close of April nearing, some contracts were being made for May delivery of gasoline but with the present market situation such buying was slower than usual, many preferring to purchase on the open market. However, many refiners reported they were "sold up" and in excellent condition for May.

On the other hand some refiners who have accumulated gasoline stocks and have been holding off for better prices now are being forced to sell at lower figures than they were offered a week ago. Although it had been figured that as a result of this condition motor gasoline would be selling for a dime the first of this week, late Tuesday it was difficult to obtain very much, if any, under 10½ cents. Market observers, however, are looking forward to Wednesday or Thursday to see if the 10¼ cents quotation can withstand the onslaught of the motor gasoline flood.

Natural gasolines seemed to have felt the more lasting effects of the New Jersey purchase of motor gasoline. Tuesday there was not the slightest indication of any weakening as there was in other products. On the other hand, buyers found it difficult to get naturals, except Grade A, even at the market quotations. And, although Grade A seemed plentiful, no buyer was able to shake the 10-cent price.

The greatest weakening in the refined market structure during the week continued to be felt in fuel oils. However, this decrease ceased to be the feature of conditions as it was last week, as the weakening was only expected with the cheap Smackover competition. The fuel oil market seemed to be anybody's, and the variety of prices were nearly as great as there were buyers and sellers in the field.

Gasoline and Naphtha

The 58-60, 437 (U. S. Motor) gasoline seemed to be the dividing line in the price changes in the gasoline and naphtha branch of the refined market. Motor gasoline and grades under it, felt a weakening during the past week while gravities above motor gasoline were strengthened. During the week, until last Tuesday, motor gasoline had dropped a quarter cnt from its quotation of 10½-10¾ cents quotation of last week. The 56-58, 450 gasoline also experienced a drop of a quarter cent to 9¾-10 cents, as did naphtha, which was bringing the same as the 56-58 gasoline Tuesday. In the higher gravities, while there were no

Continued on Page 114)

REFINED MARKET BAROMETER

A crisis has been reached in the gasoline market situation over the country with a marked tendency in some districts for the structure to weaken. Higher gravities of gasoline as a whole strengthened materially during the past week as a result of considerable export buying of 60-62 and 64-66 grades by Standard Oil Co. of New Jersey, Atlantic Refining Co. and Carson Petroleum Co. Effects of Standard of New Jersey purchase of 15,000,000 gallons of U. S. Motor gasoline two weeks ago is wearing off with downward reaction felt particularly in the Mid-Continent. Gasoline and kerosene in Pennsylvania encouraging with products moving in quantities. Decline of fuel oils is rapid because of enormous competition of Smackover, Ark., crude. Gas oils continue soft.

Mid-Continent—The sudden check in the downward trend of gasoline prices following the Standard of New Jersey purchase of U. S. Motor gasoline two weeks ago proved only temporary. U. S. Motor gasoline and lower gravities weaken after short upward impetus. Higher gravities of gasoline continue fairly firm while naturals are marked by exceptional strength. Kerosene remains unchanged but fuel oil continues to suffer from Smackover crude competition. Distillates hold their own. Lubricants unchanged in price but movement is stronger.

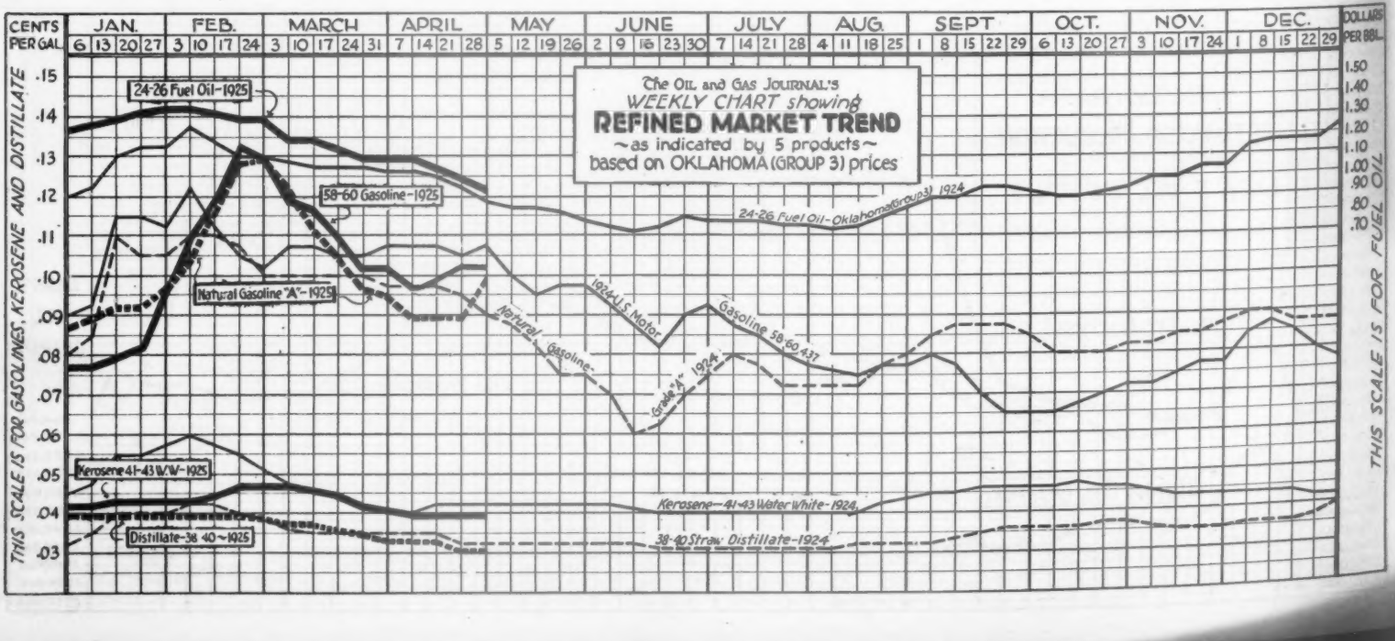
Atlantic Seaboard—Gasoline price cutting prevalent despite good demand. Gas oil and lubricants are firmer. Fuel oil is chief uncertainty. Revival felt in export trade. Petroleum asphalt and coke pick up.

Gulf Coast—Little change noticed in refined markets. Fuel oil and lubricants continue weaker.

Pennsylvania—Gasoline and kerosene in northwestern Pennsylvania refinery district encouraging and moving in quantities. Other products are soft except wax, which has shown considerable activity.

California—Refined market remains featureless but tendency toward softness is manifest. Enormous production of Smackover, Ark., crude distinctly felt in California fuel oil situation. Natural gasoline sensitive to changes.

Chicago—Demand light for all products. Higher gravities of gasoline firm but U. S. Motor grade rather easy. Kerosene market uncertain. No improvement in sight for fuel oil.


CENTS PER GAL
JAN. FEB. MARCH APRIL MAY JUNE JULY AUG. SEPT OCT. NOV. DEC.
DOLLARS PER BBL.
THIS SCALE IS FOR GASOLINES, KEROSENE AND DISTILLATE
THIS SCALE IS FOR FUEL OIL
The Oil and Gas Journal's
WEEKLY CHART showing
REFINED MARKET TREND
~as indicated by 5 products~
based on OKLAHOMA (GROUP 3) prices
24-26 Fuel Oil-1925
58-60 Gasoline-1925
Natural Gasoline "A"-1925
Kerosene 41-43 W.W.-1925
Distillate-38 40-1925
24-26 Fuel Oil-Oklahoma Group 3) 1924
1924 U.S. Motor Gasoline 58-60 43.7
Natural Gasoline "A" 1924
Kerosene-41-43 Water White-1924
38-40 Straw Distillate-1924

National Petroleum Association Meet

Semi-Annual Session at Cambridge Springs, Pa., Marked by Earnest Discussion of Practical Problems of the Refining Industry

By C. O. Willson

CAMBRIDGE SPRINGS, Pa., April 25.—Carrying out a policy adopted at the annual meeting held last fall practically all of the two days of the semi-annual meeting of the National Petroleum Association here was devoted to the discussion of the practical problems of the eastern refiner. Paying little or no attention to matters of general interest to the oil industry which groups of oil men usually discuss to the exclusion of everything else, members of the association from the opening business session Wednesday morning concerned themselves with the solution of every day problems of both the employes and executives.

When the business sessions were brought to a close many expressed the opinion that the meeting had been the most helpful ever held by the association. The meeting was also one of the largest attended. The time was too brief to discuss all the problems of plant operation but many interesting and worthwhile features were considered and provision made for the continuance of these discussions at group meetings to be held at several points before the annual meeting next fall.

The practical phase of this meeting is really an outgrowth of the success which has attended the group sessions which have been held during the past few months. These meetings have been held at Oil City, Bradford and other points for the purpose of getting together small groups located in one section to discuss matters of special interest, generally applying to some phase of plant operation or construction.

O. P. Keeney, of the Tide Water Oil Co., New York, president of the association, in his opening address said that the "spirit of cooperation and friendship fostered at these meeting was the outstanding achievement of the association's activities." He said this desire on the part of the membership to work together had made it possible for the association to accomplish more, although in carrying out an economy program adopted last year the association's budget had been reduced two-thirds.

The association was fortunate in having in attendance several outside the association who took part in all the business sessions. Four of these, Dr. H. J. Masson in charge of the Department of Chemical Engineering, New York University; F. A. Epps, manager Fire Protection Department, Tidewater Oil Co., New York; D. S. Brandt, research engineer, H. L. Daugherty & Co., New York, and H. S. Bell, consulting engineer, New York, were thanked in a formal resolution for their services.

Fire Prevention

Mr. Epps, who is a member of a subcommittee of the American Petroleum Institute which has recently been devoting all its time to an investigation of fire hazard in the oil industry, made a plea for greater support of the program of the Welfare and Insurance Department of the National Petroleum Association.

In this connection Mr. Epps explained briefly the findings of the A. P. I. committee in regard to the spacing necessary in the location of tanks. This committee in arriving at its conclusions, which were approved by the board of trustees of the A. P. I., obtained reports from 200 oil companies including practically all the major companies. This report is now before an arbitration committee from which the oil industry is attempting to secure certain changes in the proposed regulations of the National Fire Protection Association covering the spacing of tanks.

The result of this investigation led to the general conclusion by the committee that the oil industry has a remarkable record in regard to fire hazard according to Mr. Epps. Although generally considered to be especially hazardous in regard to fires, the reports obtained by the committee covering a period of 10 years, proved the contrary.

Committee's Recommendations

The committee made the following recommendations:

1. All-steel tanks of airtight construction should be used. Tanks for the storage of crude oil should be classed separately from tanks used for the storage of gasoline, kerosene and fuel oils.

2. Space between tanks in the case of refined oils should equal diameter of tanks. In the case of crude oil double the diameter. Adequate protection through use of chemicals should reduce this spacing requirement one-half.

3. Fire walls in case of crude should provide capacity equal to that of the tank and not 150 per cent, as now required. Top of fire wall should be located not closer than diameter of the tank. Fire walls not necessary in case of light oils.

4. In case of crude oil storage, fire walls should be constructed with coping so as to make it more difficult for crude to go over the wall.

Mr. Epps said it had been ascertained that the gas-tight steel tanks were practically immune from fire when properly maintained. Most fires, he said, were due to carelessness in failing to have careful and regular inspections of tanks. He recommended that all refiners appoint a fire marshal who will be responsible for these inspections.

It was brought out in the discussion following Mr. Epps' talk that many eastern refiners have already adopted this plan to reduce their fire hazard. A fire marshal is appointed for each plant and at regular intervals he inspects and makes a report to the company on a form which was recently worked out by the association.

Mr. Epps explained that the welfare and Insurance Department of the association proposes to aid the fire marshal in his work through bulletins which are sent out explaining the several phases of his duties. He urged that all companies send in the reports of their fire marshals to the association's committee. From these reports the committee expects to be able to make several recommendations which will be of benefit to all.

(Continued on Page 105)

VETERAN MEMBERS HONORED BY ASSOCIATION

CAMBRIDGE SPRINGS, April 25.—Members of the National Petroleum Association in their semi-annual meeting here paid tribute to three veteran members of the organization. At the close of the Fellowship Supper separate resolutions were adopted conveying the association's high regard for Col. U. G. Lyons, of the Conewango Refining Co., Warren, Pa., C. D. Chamberlin and William E. Wall, of Cleveland Ohio.

Both Colonel Lyons and Mr. Wall are former presidents of the association. The former completed three years of service as president last fall, and Mr. Wall, who was a charter member of the association, served as president for 10 years. Mr. Chamberlin has been general counsel of the association for many years.

Neither Colonel Lyons nor Judge Chamberlin were able to attend the meeting here due to ill health. Mr. Wall was present when the association adopted a resolution making him a life member of the association. A committee was appointed to present Colonel Lyons with a silver service which the membership had expected to present to him here.

Among those registering at the meeting of the National Petroleum Association at Cambridge Springs, Pa., April 22-23 were: A. V. Clinger, Tidoute, Pa.; H. R. Hawkey, Tidoute, Pa.; E. E. Harrington, National Refining Co., Cleveland, Ohio; Daniel C. Hughes, Conewango Refining Co., Warren, Pa.; T. M. Moore, Tiona Refining Co., Clarendon, Pa.; Willis Crane, N. P. A., Washington, D. C.; J. T. Mullaney, Canfield Oil Co., Coraopolis, Pa.; George Turnbull, Oil City Derrick, Oil City, Pa.; C. O. Willson, The Oil and Gas Journal, Tulsa, Okla.; T. A. Westgate, American Oil Works., Titusville, Pa.; L. A. Tarbox, Independent Refining Co., Oil City, Pa.; Fayette B. Dow, N. P. A., Washington, D. C.; G. H. Detlor, Oil Works, Warren, Pa.; Herbert G. Eaton, Superior Refining Co., Franklin, Pa.; R. P. Hewe, Crew Levick Co., Titusville, Pa.; Dr. H. J. Masson, New York University, N. Y.; B. H. Mathis, Warren Tank Car Co., Warren, Pa.; Robert M. McCaslin, Fred G. Clarke Co., Cleveland Ohio; K. C. Northrop, Independent Refining Co., Oil City, Pa.; H. S. Peterson, Seneca Oil Works., Warren, Pa.; B. E. Shoemaker, Independent Refining Co., Oil City, Pa.; W. R. Peck, Bradford Oil Refining Co., Bradford, Pa.; J. R. Sloane, James B. Berry Sons Co., Oil City, Pa.; E. W. Smiley, Superior Oil Works, Warren, Pa.; B. B. Stroud, McKean County Refining Co., Bradford, Pa.; P. S. Tarbox, Independent Refining Co., Oil City, Pa.; W. S. Zehrung, Pennzoil Co., Oil City, Pa.; Fred Anderson, Crew Levick Co., Titusville, Pa.; Thomas A. Anderson, Continental Refining Co., Oil City, Pa.; H. S. Bell, New York City; J. D. Berry, James B. Berry Sons Co., Oil City, Pa.; D. G. Brandt, Henry L. Daugherty Co., New York; S. B. Browne, Great Western Oil Co., Cleveland, Ohio; John E. Cavanaugh, Pennzoil Co., Oil City, Pa.; Dr. P. H. Conradson, Franklin, Pa.; David W. Crossett, Tiona Refining Co., Clarenda, Pa.; H. K. Dorrance, Crew Levick Co., Titusville, Pa.; W. P. Dunbar, Bell Oil & Gas Co., Tulsa, Okla.; W. J. Snively, William Sealing Corp., Decatur, Ill.; M. Evans, Island Petroleum Co., Pittsburgh, Pa.; L. D. Fulton, Pennzoil Co., Oil City, Pa.; E. C. Gardner, Seneca Oil Works, Warren, Pa.; W. V. Geer, Crew Levick Co., Titusville, Pa.; J. W. Griswold, Crew Levick Co., Warren, Pa.; G. B. Hunter, Emlenton Refining Co., Emlenton, Pa.; O. P. Keeney, Tide Water Oil Co., New York; Otto Koch, Kendall Refining Co., Bradford, Pa.; Lewis P. Litzinger, Butler County Refining Co., Butler, Pa.; E. M. Lyons, Tiona Refining Co., Clarendon, Pa.; Grant M. Lyons, Conewango Refining Co., Warren, Pa.; S. Messer, James B. Berry Sons Co., Oil City, Pa.; T. M. Murphy, W. H. Dougherty & Son Refining Co., Petrolia, Pa.; L. C. Quackenbush, Tide Water Oil Co., New York; William J. Sloan, Sloan & Zook Co., Bradford, Pa.; P. F. Connerty, Butler County Oil Refining Co., Butler, Pa.; Fred G. Clarke, Fred G. Clarke Co., Cleveland, Ohio; Edward Bush, Acewood Petroleum Co.; M. M. Browne, Great Western Oil Co., Cleveland, Ohio; R. J. Alexander, Pennsylvania Grade Crude Association, Oil City, Pa.; James A. Wainwright, Fred G. Clarke Co., Cleveland, Ohio; C. L. Suhr, Pennzoil Co., Oil City, Pa.; Percy C. Hubbard, Kendall Refining Co., Bradford, Pa.; Lewis Carruth, Canfield Oil Co., Coraopolis, Pa.; George P. Brockway, Seneca Oil Worsk, Warren, Pa.; D. W. Grant, Franklin Creek Refining Co., Franklin, Pa.; Colonel E. V. D. Selden, Crystal Oil Works, Oil City, Pa.; C. R. Kerr, Sloan & Zook Co., Bradford, Pa.; Harry R. Lewis, Fred G. Clark Co., Cleveland, Ohio; John W. Fawcett, Crystal Oil Works, Oil City, Pa.; L. W. Young, Jr., South Penn Oil Co.; Pittsburgh, Pa.; C. D. Blair, Levi Smith Refining Co., Bradford, Pa.; J. T. Brosnahan, Emlenton Refining Co., Emlenton, Pa.; C. W. Craig, Waverly Oil Works, Pittsburgh, Pa.; L. C. Jamison, Vikin Oil Co., Warren, Pa.; W. W. Klingensmith, Transcontinental Oil Co., Pitsburgh, Pa.; K. M. Lyons, Keystone Petroleum Co., Warren, Pa.; Richard A. Wotowitch, Empire Refineries, Inc., New York; George W. Ebert, James B. Berry Sons Co., Oil City, Pa.; Thomas E. McLaughlin, Independent Refining Co., Oil City, Pa.; H. E. Brandil, Cities Service Export Oil Co., New York; Earle MacDonald, Warren, Pa.; H. A. Logan, Warren, Pa.; R. P. Beardslee, Carson Petroleum Co., Cleveland, Ohio, H. L. Gibson, Carron Petroleum Co., Pittsburgh, Pa.; H. N. Dauler, Dauler Oil Co., Pittsburgh, Pa.; Frank A. Epps, Tide Water Oil Co., New York; E. M. Hyatt, Pure Oil Co., Warren, Pa.

Ranger Area Gets "Boom Time" Well

Completion of Good Producer Proves Reason for Great Amount of Wildcat Drilling Being Done Throughout That Territory

By C. D. Lockwood

The biggest well in the Ranger district since the boom days, and the largest producer ever brought in north of town for a good many miles, started spraying oil all over the landscape last Wednesday morning when G. C. Barkley and associates unexpectedly struck the gray lime at 3,534 feet in their test on the Pritchard farm, about 8 miles northwest of the town of Ranger, Tex. No control head was on the lease at the time and with the aid of a regular Texas sou-easter, the surrounding country was "done in oil" for several hours at the rate of about 50 bbls. an hour. She came in flowing by heads lasting about 20 minutes and was estimated to be making about 50 bbls., but the flows gradually increased in length until when the well was gauged for the first time Thursday afternoon, it was doing 90 bbls. an hour and the flows were of 30 minutes duration.

The gravity of the oil tests 41.7 degrees and there is about 4,000,000 feet of gas with it. Total depth of the hole is supposed to be about 6 feet in the pay formation which is the gray lime common to this whole general region at that depth. The tools were still in the hole Friday so no accurate steel line measurement was taken.

Lime Production Spotted

The importance of this well is difficult to determine because of the spotted character of the lime production in this region. Dry holes are drilled next to big producers in the so-called deep pay, and local oil men find it hard to become enthusiastic over any lime production. The pool cannot extend more than 1½ miles in any direction except possibly to the southeast, where there is an opening between deep dry holes and small producers. On the other hand, wells which have been drilled in the vicinity indicate that this pool will be more than the customary pimple, and that it may possibly extend a couple of miles long in a southeast-northwest direction. An old 10-bbl. producer 1 mile east of it appears now to be on the edge of the structure and if such is the case, a field of good size may be developed between them.

The Pritchard well is located in Section 2, Block B, of the T. & N. O. Railroad survey, about half a mile south of Barney Carter's wildcat Langford No. 1, which topped the lime in May of last year making 365 bbls. with the bit only 1 foot in the pay. This well has held up wonderfully, averaging 309 bbls. daily during March of this year, according to Prairie Pipe Line Co. figures, and last week as doing 318 bbls. This excellent well provides the basis for hopes of operators who have acreage in the vicinity that a real pool has been opened. Such sustained production in the lime pay is unusual in this part of the country. The Langford wildcat reached the pay at 3,570 feet, which is just 30 feet lower than the Pritchard, considering surface elevations.

Barney Carter and associates have drilled two dusters on their acreage since the Langford came in and have helped to define the pool on the north and west. About a quarter of a mile west and a little north of the Langford, they abandoned their test on the E. Y. Jennings farm at 3,822 feet. This is located about the center of the east line of Section 3. Nearly a mile west of the Langford, they put another one down to 3,762 feet before quitting it with a hole full of water. They found the black lime in this well at 3,275 feet. Both of these were finished in December, 1924.

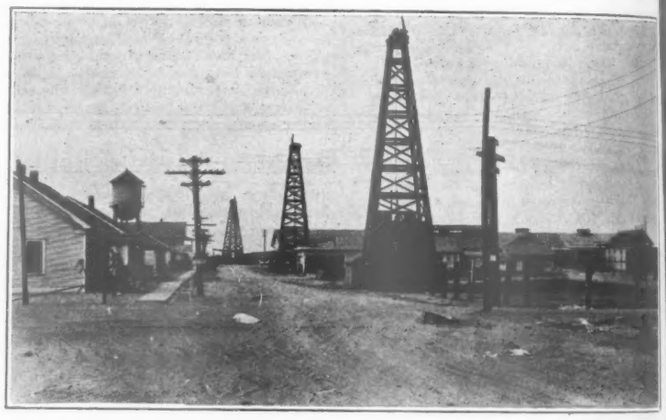
Another duster which helps outline the field's possibilities was drilled by Lester and others a half mile northeast of the Langford well to 3,845 feet.

The well which may turn out to have been the real discovery of the pool is known as the Kate Peck well, more than a mile due east of the big Pritchard gusher. This was completed in January of 1920 for 50 bbls. and is still pumping about 20 bbls. daily. Sand at 3,588 to 3,600 feet was shot with 60 quarts. It was drilled by the Ranger-Texas Oil Co. on the E. L. Peck farm. Two deep holes were drilled near this well, one to the north by Hivick, Childers and others on the Dupree farm, and the other to the south by the States Oil Corp., on the Power lease. The latter was completed at 3,660 feet and the former at 3,850 feet. One of these wells is said to have had 1,800 feet of oil in the hole when the pipe was dropped and the hole was plugged. It is probable that new locations which will be made as a result of the new well will extend over close to these old wells.

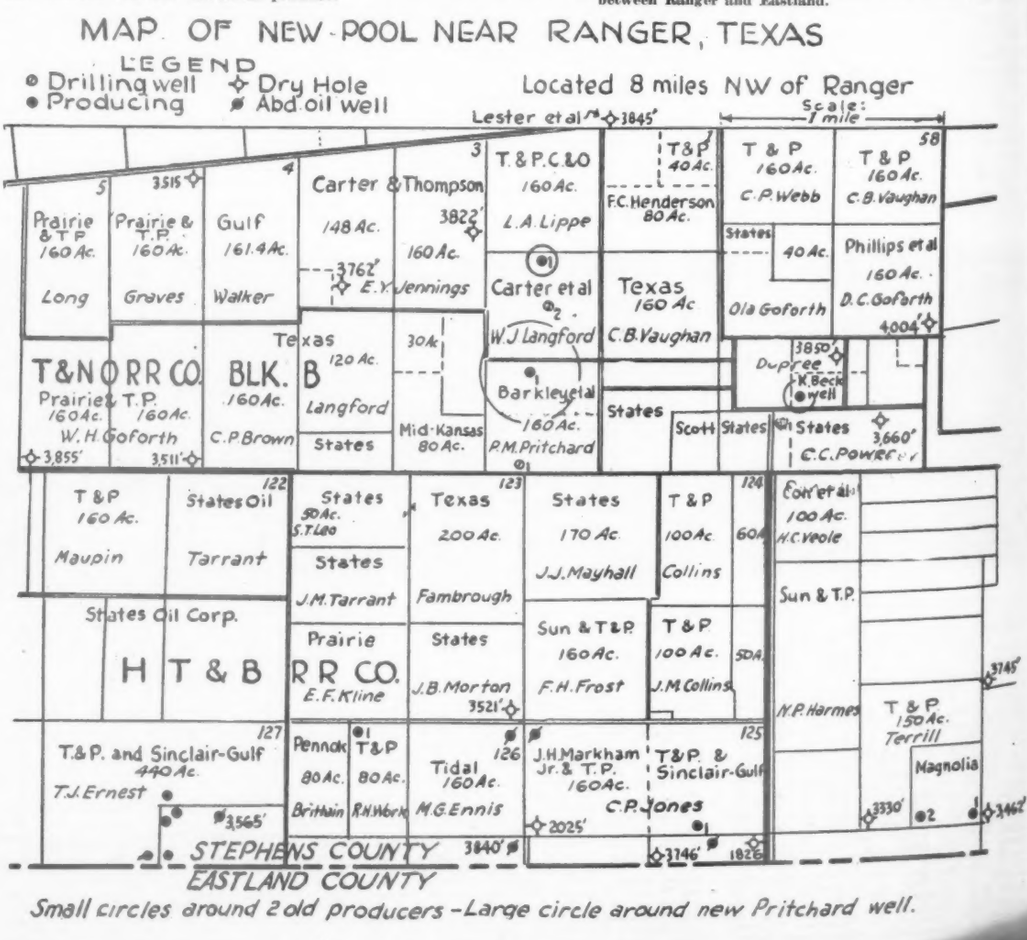
About 1½ miles southwest of the Pritchard gusher is an old producer which has been making a little oil since February of 1920, when it was drilled in. It is the Texas & Pacific Coal & Oil Co.'s Work No. 1, in Section 126, H. T. & B. Railroad Co. survey. It came in originally for 50 bbls. after a 240-quart shot in sand at 3,520-82 feet, and is now good for 8 or 10 bbls. daily. Directly east of the Work well, about three quarters of a mile, and directly south of the Pritchard, is a small cluster of abandoned wells and dusters. The old Markham producer on the Jones farm was drilled as deep as 3,850 feet in October of 1919, but was plugged back to sand at 3,495-3,607 feet, where it was shot with 490 quarts and made 25 bbls. an hour for a time. It has long since been abandoned, however. Its west offseet, drilled by the Tidal Oil Co., was a 15-bbl. pumper at 3,526-3,610 feet.

It is expected that about a dozen new wells will be started within the next month as a result of the Pritchard producer. Close-in acreage was not changing hands rapidly, but indications were that some deals would be closed shortly at figures around $200 or $300 an acre. The days when speculators and others paid bonuses rivaling the well-known fortunes paid to the Osage Indians in Oklahoma have passed and oil men around Ranger are not showing an undue amount of excitement over the new find. In fact, the well is taken calmly and without much enthusiasm in Ranger. In the first place, they distrust the lasting qualities

(Continued on Page 105)



Shallow sand producers and drilling wells in streets of Olden, Tex., about half way between Ranger and Eastland.


MAP OF NEW POOL NEAR RANGER, TEXAS
LEGEND
Drilling well
Producing
Dry Hole
Abd. oil well
Located 8 miles NW of Ranger
Scale: 1 mile
Lester et al 3845'
Prairie & T.P. 160 Ac. Long
Prairie & T.P. 160 Ac. Graves
Gulf 161.4 Ac. Walker
Carter & Thompson 148 Ac.
3762' E.Y. Jennings
Carter & Thompson 3822' 160 Ac.
T. & P. C. & O. 160 Ac. L.A. Lippe
T & P 40 Ac.
F.C. Henderson 80 Ac.
T & P 160 Ac. C.P. Webb
T & P 160 Ac. C.B. Vaughan
States 40 Ac. Ola Goforth
Phillips et al 160 Ac. D.C. Goforth 4004'
Carter et al W.J. Langford
Texas 160 Ac. C.B. Vaughan
T&N O R R CO. Prairie & T.P. 160 Ac. W.H. Goforth 3855' 3511'
Texas B 120 Ac. Langford
BLK. 160 Ac. C.P. Brown
30 Ac.
Mid-Kansas 80 Ac.
Barkley et al 160 Ac. P.M. Pritchard
Dupree 3850' K. Beck well
States
Scott
States
States 3660' C.C. Powell
T & P 160 Ac. Maupin
States Oil 122 Tarrant
States 50 Ac. S.T. Leo
States J.M. Tarrant
Texas 123 200 Ac. Fambrough
States 170 Ac. J.J. Mayhall
T & P 100 Ac. Collins
Con et al 100 Ac. H.C. Veale
Sun & T.P.
States Oil Corp. H T & B
Prairie R R CO. E.F. Kline
States J.B. Morton 3521'
Sun & T&P 160 Ac. F.H. Frost
T & P 100 Ac. J.M. Collins SDA
N.P. Harmes
T & P 150 Ac. Terrill
Magnolia
T.&P. and Sinclair-Gulf 127 440 Ac. T.J. Ernest 3565'
Pennok 80 Ac. Brittain
T&P 80 Ac. R.N. Work
Tidal 126 160 Ac. M.G. Ennis
J.H. Markham Jr. & T.P. 160 Ac.
T.P. & Sinclair-Gulf 125
C.P. Jones 2025'
3330' 2 3462'
3746' 1826'
3840'
STEPHENS COUNTY
EASTLAND COUNTY
Small circles around 2 old producers - Large circle around new Pritchard well.

Smackover Heavy Near 300,000 Bbls.

Some Estimates Place Production at That Figure. Average Initial Production Falling Off. New Pipe Lines and Storage

By Special Correspondence

EL DORADO, Ark., April 27.—Estimates on the production of Smackover heavy oil today vary from 280,000 to 300,000 bbls. a day, of which all but 58,000 bbls. a day comes from the third sand. The fact that the oil purchasing companies, some of which are also producers, ran over 287,000 bbls. of heavy oil a day out of the field for the week ending Saturday would lead to the belief that even an estimate of 300,000 bbls. at the close of the week was conservative, as the estimates on Saturday, April 18, were around 235,000 bbls., which would show an average of about 267,000 bbls. a day for the week or about 20,000 bbls. a day less than was actually run.

Up to 7 a. m. today 106 deep sand wells had been completed. Twenty-two of these are dead. From Tuesday to Saturday inclusive, or in four days 24 wells were completed with a combined initial production of 70,790 bbls., or an average of 2,920 bbls. per well.

The initial production for the week ending last Thursday was 84,500 bbls. while for the week ending Thursday, April 16, it had been 130,685 bbls. with only two more completions.

A good many oil men are of the opinion that the peak of production has either been reached or is close at hand.

Completions

Completions since last Tuesday in the deep sand include the following wells:

The Amerada Petroleum Corp.'s No. 4 Calloway, SW NW SE, Section 4-16-15, sand at 2,339-45 feet, 1,200 bbls.

The Woodley Oil Co.'s No. 4 Umsted, SW NE SW, Section 4-16-15, sand at 2,346-58 feet, 2,500 bbls.

United Central Oil Co.'s No. 4 Murphy, NW SE SE SE, Section 8-16-15, sand at 2,496-2,512 feet, flowing 4,500 bbls.

Gulf Refining Co.'s No. 9-B Flannagan, CWL NW SW, Section 5-16-15, sand at 2,362-71 feet, flowing 2,000 bbls.

Eason and others No. 4 Palmer, NE NW SE SW, Section 9-16-15, sand at 2,463-89 feet, increased from 300 bbls. to 2,400 bbls.

Sam Richardson's No. 3 Lawton, CNL SW SW SW, Section 10-16-15, sand at 2,453-64 feet, now making 5,000 bbls., 40 per cent salt water.

Sun Oil Co.'s No. 8 Hays, NW cor. SW NW Section 3-16-15, sand at 2,353-61 feet, flowing 1,000 bbls.

Standard Oil Co.'s No. 5 Hardy Murphy, NE cor. SW SE Section 4-16-15, sand at 2,356-66 feet, flowing 2,000 bbls.

Amerada Petroleum Corp.'s No. 3 Calloway, SE cor. NW SE Section 4-16-15, sand at 2,349-59 feet, flowing 3,000 bbls.

Coats & Sowell's No. 2 Billyew, SE cor. NE SW NE Section 8-16-15, sand at 2,452-65 feet, flowing 3,000 bbls.

Humble Oil & Refining Co.'s No. 5-B Flenniken, SW cor. NW SW Section 9-16-15, sand at 2,438-54 feet, flowing 4,000 bbls.

Gulf Refining Co.'s No. 9 Alphin, SW cor. NW NE NE Section 10-16-15, sand at 2,382-94 feet, flowing 4,500 bbls.

Clark & Melat's No. 2-A Wells, SE cor. NE NW Section 15-16-15 swabbed a good showing of oil but there was considerable salt water with it.

NW cor. SE, Section 3-16-15, sand at 2,370-77 feet, flowing 3,500 bbls.

Kinnebrew and others No. 5 Williams, SE cor. SW NE NE, Section 3-16-15, sand at 2,373-83 feet, flowing 500 bbls.

The Texas Co.'s No. 3 Calloway, SW cor. NE SE, Section 4-16-15, sand at 2,349-52 feet, flowing 4,000 bbls.

Shreveport Oil & Refining Co.'s No. 2 Umsted, NE cor. SE NW, Section 4-16-15, sand at 2,339-55 feet, flowing 350 bbls.

Roxana Petroleum Corp.'s No. 2-B Flenniken, SE cor. SW SE, Section 5-16-15, sand at 2,358-62 feet, flowing 400 bbls.

Sun Oil Co.'s No. 5 Hatfield, CEL SE SE, Section 6-16-15, sand at 2,372-78 feet, 2,000 feet of oil in the hole; would not flow.

Page Oil Corp.'s No. 5 Murphy, NE cor. SE SW, Section 7-16-15, sand at 2,475-78 feet, good show of oil but accompanied by salt water; casing seat may have been lost.

Lion Oil Co.'s No. 1-G Murphy, SE cor. NE NE, Section 8-16-15, sand at 2,469-74 feet, making 20,000,00 feet of gas and 1,000 bbls. of emulsion. Connections have been cut and the well is threatening to crater.

Murdock and others' No. 2 Murphy, NW cor. SW SE, Section 9-16-15, sand at 2,437-47 feet, flowing 500 bbls.

Imperial Oil & Gas Products Co.'s No. 4 Murphy, SW cor. NE, Section 9-16-15, sand at 2,460-88 feet, flowing 8,000 bbls.

Standard Oil Co. of Louisiana's No. 6 Hardy, SE cor. SW SW, Section 4-16-15, sand at 2,360-68 feet, 540 bbls. the first 24 hours.

Standard Oil Co.'s No. 11 McClanahan, CNL S half NE NE, Section 6-16-15, sand at 2,385-95 feet, flowing 5,000 bbls.

George & Jones' No. 5 Umsted, NW cor. Lot 1, NE, Section 4-16-15, sand at 2,343-59 feet, flowing 10,000 bbls.

Ohio Oil Co.'s No. 5 Murphy, NE cor. SW NE, Section 9-16-15, sand at 2,395-2,411 feet, flowing 5,000 bbls.

PRODUCTION AND B. S. REPORT ON SMACKOVER DEEP SAND WELLS, APRIL 20, 1925

Company and Farm—	No. of Well	Fluid Barrels	Remarks:
Clark & Melat, Murphy	1	800	1% b. s.
Murdock and others, Billyeu	2	3,500	8/10 of 1% b. s.
Sunny Jim Oil Co., Flenniken	3	4,000	58% water
Sunny Jim Oil Co., Flenniken	4	5,000	5/10 of 1% b. s.
Sunny Jim Oil Co., Flenniken	5	3,000	6/10 of 1% b. s.
O. L. Hickman, Graves	6	5,000	20% water
O. L. Hickman, Graves	8	1,400	3% b. s.
O. L. Hickman, Graves	9	1,000	6/10 of 1% b. s.
Sam Cook Oil Co., Murphy	1	4,000	4/10 of 1% b. s.
Broderick & Calvert, Bradford	2	450	1% water, 4% b. s.
Broderick & Calvert, Murphy	C-1	1,000	80% water, 5% b. s.
George & Jones, Umsted	3	8,000	5/10 of 1% b. s.
George & Jones, Umsted	4	1,200	4/10 of 1% b. s.
Lion Oil & Refining Co., Graves	5	8,000	90% water, 6% b. s.
Lion Oil & Refining Co., Graves	6	5,000	All salt water
Lion Oil & Refining Co., Graves	7	Dead	Bridged over
Lion Oil & Refining Co., Hayes	1	4,000	1% b. s.
Lion Oil & Refining Co., Billyeu	2	800	10% water, 20% b. s.
Lion Oil & Refining Co., Flenniken	5	400	3% water
Gulf Refining Co., Hardy-Murphy	7	1,500	6/10 of 1% b. s.
Gulf Refining Co., Hardy-Murphy	9	800	5/10 of 1% b. s.
Gulf Refining Co., Hardy-Murphy	12	1,200	8/10 of 1% b. s.
Gulf Refining Co., Hardy-Murphy	13	4,500	5/10 of 1% b. s.
Gulf Refining Co., Hardy-Murphy	14	8,000	6/10 of 1% b. s.
Gulf Refining Co., T. C. Murphy	2	9,000	6/10 of 1% b. s.
Gulf Refining Co., B. Goodwin	6	3,000	1% b. s.
Gulf Refining Co., R. Bennett	3	1,000	6/10 of 1% b. s.
Gulf Refining Co., LeCroy	5	500	1% b. s.
Leon and others, Berg	2	1,000	5/10 of 1% b. s.
Humble Oil & Refining Co., Pate	5	15,000	45% water, 5% b. s.
Humble Oil & Refining Co., Pate	6	1,500	5/10 of 1% b. s.
Humble Oil & Refining Co., Pate	7	3,000	4/10 of 1% b. s.
Humble Oil & Refining Co., Umsted	6	1,100	4/10 of 1% b. s.
Humble Oil & Refining Co., Umsted	7	900	4/10 of 1% b. s.
Humble Oil & Refining Co., Flenniken	B-2	1,000	1% b. s.
Humble Oil & Refining Co., Flannagan	5	2,500	4% b. s.
Natural Gas Petroleum Corp., Murphy	6	4,000	1% water, 1% b. s.
Natural Gas Petroleum Corp., Murphy	F-1	1,000	4/10 of 1% b. s.
Natural Gas Petroleum Corp., Murphy	F-2	300	85% water
Hollyfield & McFarland, Giller	8	500	45% water
Pure Oil Co., Billyeu	1	15,000	80% water
Roxana Petroleum Corp., Flenniken	C-1	500	45% water
Roxana Petroleum Corp., Hardy-Murphy	1	8,000	4/10 of 1% b. s.
Roxana Petroleum Corp., Umsted	3	Dead	Bridged over
Ray Drilling Co., Tatum	2	Dead	Bridged over
Shreveport Oil Corp., Murphy	A-1	1,800	6/10 of 1% b. s.
Unity Petroleum Co., Roper	7	2,000	4% b. s.
Mazda Oil Corp., Lawton	H-1	16,000	3% b. s.
Mazda Oil Corp., Lawton	B-1	3,000	4/10 of 1% b. s.
Marine Oil Co., Umsted	5	9,000	1% b. s.
Marine Oil Co., Hayes	5	Dead	Bridged over
Imperial O. & G. Prod. Co., Murphy	2	Dead	Bridged over
Imperial O. & G. Prod. Co., Murphy	6	18,000	4/10 of 1% b. s.
Ohio Oil Co., Pate	6	400	6/10 of 1% b. s.
Ohio Oil Co., Scott Murphy	3	5,000	3/10 of 1% b. s.
Ohio Oil Co., Scott Murphy	4	2,000	6/10 of 1% b. s.
The Texas Co., Graves	7	4,500	44% b. s.
The Texas Co., Graves	8	9,000	2% water, 8% b. s.
The Texas Co., Graves	9	Dead	Bridged over
Woodley Petroleum Co., Umsted	3	800	1% b. s.
Amerada Petroleum Corp., Calloway	2	7,000	4/10 of 1% b. s.
A. H. Ramage, Lawton	4	Dead	Bridged over
A. H.Ramage, James	7	500	95% water
Houston Oil Co., Milner	5	Dead	Bridged over
O. G. Murphy, Murphy	5	800	6/10 of 1% b. s.
J. S. J. Lyell, Fee	7	Dead	Bridged over
Sun Co., Hayes	3	1,200	1% b. s.
Crusader Oil & Prod. Co., Graves	5	600	Pmg. 4/10 of 1% b. s.
Crawford & Sebastian, Graves	6	1,500	4/10 of 1% b. s.
Standard Oil of La., Umsted	12	700	15% water, 7% b. s.
J. W. Clark, Palmer	3	800	5/10 of 1% b. s.

It looks at this time as if the limits of the deep sand Smackover production will come within a half mile north of the south line of Township 15-15 and a quarter of a mile south of the north line of the third row of sections in Township 16-15, and that all or parts of 14 sections will be included in the productive zone. In other words the field may measure 2¾ miles north and south and 3 miles, or a little over, east and west.

While the city of El Dorado and all the small oil towns in the field are filled with strangers attracted here in the past two weeks by the news of the tremendous amount of work in the field, there is, as a matter of fact, a slight letting down of the amount of activity in the field within the past few days. With the general opinion prevailing that the peak of production will come within the next 20 days some of the big operating companies are making fewer locations and giving other evidences that they will not rush their work as they were doing two and three weeks ago. The production of the field is over 280,000 bbls., and there are close to 200 wells drilling for the deep sand in the two townships. Many of these are expected to be small wells.

A surprising number of inquiries on the part of prospective purchasers of heavy crude have been made recently but the reported contract by which the Crusader Pipe Line Co. will take the Humble Oil & Refining Co.'s production at 87½ cents per bbl. is the only big deal in crude which has been made public up to this time.

The Standard Oil Co. of Louisiana is building 2,000,000 bbls. of additional earthen storage in Sections 25-16-16 and 30-16-15. The Texas Co. is laying an additional line into the field but it cannot be learned where the oil is destined for.

The Standard Pipe Line Co. is making a survey for another pipe line out of the field, which, it is intended, will run to the Mississippi River. If conditions do not change the company's plans it may be running oil through this line in 75 days. The line would be 100 miles long and would strike the Mississippi River somewhere near the town of Lake Village, Ark. It is planned to barge the oil from the pipe line terminal to Baton Rouge. The company is said to be well supplied with barges and tugs.

The line will be more expensive than other pipe lines of the same length built by the company because more relay stations will be required and heating stations made necessary because of the heavy gravity of the oil, will be constructed.

Standard of Indiana Steps In

El Dorado and the Smackover Field were visited by a number of officials of the Standard Oil Co. of Indiana in the past week. The Crusader Pipe Line Co. and the Crusader Oil Producing Co. are now a part of the Standard of Indiana, those companies having been included in the recent merger effected by the Doheny interests and the Standard, wherein the latter company acquired control of the British-Mexican Petroleum Co., owned by Doheny and British interests. The Crusader companies were owned by the same capitalists who were interested with Doheny in Mexico. Sheldon Hardin, of Shreveport, was recently elected president of the Crusader Oil Producing Co. and the Crusader Pipe Line Co.; P. P. Harwood, of New York, was elected vice president; N. M. Hancock, of Shreveport, secretary and assistant treasurer, and J. W. Conway, of New York, treasurer and assistant secretary. The Crusader companies recently moved their headquarters to Shreveport. They have acquired large interests in the Cotton Valley Field in Louisiana. The Crusader was launched last August under W. R. Davis of Tulsa. It has been buying and shipping an average of 20,000 bbls. a day of heavy Smackover crude for several months. The producing end of the company operates a number of leases in the Smackover Field.

Most Wells Showing Water

A production and basic sediment report made on the Smackover deep sand area as of April 20 brings out some interesting facts regarding the quality of the production from the third sand. Very few of the wells listed were producing 100 per cent pipe line oil and some of them were showing a surprising percentage of water and sediment. The report is given in full elsewhere.

How Work Is Distributed

There were 64 derricks up and 191 wells drilling in Township 16-15, in the last round up of field operations in which the deep sand was the objective, and 9 derricks up and 12 wells drilling in the southern part of Township 15-15. It in in this territory that all the deep sand heavy gravity oil is expected to come. There were 10 derricks up and 24 wells drilling in Section 3-16-15; 8 derricks up and 37 wells drilling in Section 4; 3 derricks and 20 wells drilling in Section 5; 2 derricks and 7 drilling wells in Section 6; 8 wells drilling in Section 7; 5 derricks up and 21 wells drilling in Section 8; 12 derricks and 37 wells drilling in Section 9; 16 derricks and 16 wells drilling in Section 10; 3 wells

(Continued on Page 111)

Why Gasoline Prices Differ in the East

Hudson River Barrier for Motorists and Marketing Organizations Alike, Causing Variance in Cost of Motor Fuel

By N. O. Fanning

NEW YORK, April 27.—The difference in gasoline tank wagon prices in various States adjoining each other has often been commented upon. There is now an especially large differential between the markets in New Jersey and New York, amounting to 3 cents per gallon. In New York City the motorist can buy gasoline for not less than 23 cents per gallon. Crossing the river he gets it for 20 cents. The tank wagon market in New Jersey is 17 cents, while in New York, just across the Hudson River, it is 20 cents.

This has called for unusual comment on the part of motorists because New York City and Jersey City are, so far as nature is concerned, one city, although situated in different States. Brooklyn lies across the river from New York City proper, but is counted part of the city, and gasoline prices are the same on both sides. This is the East River, but New York City and Jersey City are divided by the Hudson River.

The real explanation of the sharp differential between gasoline prices in New Jersey and New York lies in the existence of the Hudson River between the two States. New Jersey also adjoins New York at the former's northern extremity. This is a purely political boundary line, and there is not the sharp difference in gasoline prices on either side of the line, for the simple reason that the motorist could easily cross the line and get his gasoline at the cheaper service station. But where New York is separated from New Jersey by the Hudson River, the difference becomes immediately noticeable.

The difference in prices quoted by the two Standard companies and generally adhered to by their competitors has often been attributed loosely to the lines drawn between the marketing territories of the different Standard Oil companies. Of course this could not be, inasmuch as the competitors of the Standard companies would not be bound by an such distinction and would have the opportunity of underselling.

The Hudson River is the big factor in the situation. This river forms a division between New York and New Jersey at the port of New York. It also forms a dividing line between the extreme eastern part of New York State and New England on the one hand, and western New York and New Jersey on the other.

The Hudson River is not so very wide, but it is deep. It has not been found reasonably possible to build bridges over it within 25 miles of New York City. Not only is its depth a factor, but the largest ocean liners in the world, such as the Leviathan, have their berths on the lower Hudson River on both the New York and New Jersey shores, and their masts and funnels are so high it would not be easy to build bridges high enough.

The result is that it is impossible for motorists to cross the Hudson at New York City with their cars without using the ferries. It costs about 50 cents to cross one way, so that it can easily be seen it would not be practical for New Yorkers to cross for the purpose of buying cheaper gasoline.

On the other hand, from the viewpoint of the oil companies, the Hudson River is an important factor. The production of the Bayonne refineries is sold for 3 cents more per gallon in New York City than in Jersey City at present. This difference represents approximately the cost of getting the gasoline across the river. It means the maintenance of elaborate barge and docking facilities for those oil companies which do not care to use tank cars. The railroads charge about 12 to 15 cents per 100 pounds to take gasoline across the Hudson in tank cars, 12 cents in lots of six cars or more, 15 cents in lots of less than six cars.

Harbor Facilities Limited

As harbor facilities are extremely limited on the New York side of the Hudson, most of the large oil companies that maintain barges in the harbor have their main storage plants in New Jersey. Standard of New Jersey, Vacuum Oil, and Tide Water are at Bayonne, Pan American Petroleum at Carteret, and so on. The Standard Oil Co. of New York is about the only large oil concern having elaborate storage and distribution facilities on the New York side. It was fortunate in having started early. The Pratt Works, founded more than 60 years ago, were located on the harbor in Brooklyn, and here now is the main refinery of the Standard company, which took over the Pratt Works.

The New York Standard, therefore, has extensive storage tanks, and also complete loading and unloading facilities for large ocean-going tank steamers as well as for smaller tanker and river barges. It must be pointed out, however, that this plant is across another river from the mainland and therefore all products, to be marketed either in New York City or in upper New York State and New England, must be transported first in river boats, which involves a certain additional expense.

Because of the unusual topography of the territory surrounding New York harbor, the marketing of gasoline as well as other products offers a more complicated problem than one would naturally believe.

The Hudson River, as has been pointed out, forms a dividing line not only between New York and New Jersey at New York harbor, but also between New York (all but a small portion) and New England. The effect of this is that shippers of gasoline by tank car have only one practical means of reaching New England without crossing the lower Hudson. This is by way of Albany. It would hardly be practical to ship gasoline all the way up to Albany and then down to New York, which would cost more than to ship it to Jersey City and thence across the river in barges.

Two Marketing Problems

The marketing situation east of the Hudson River, which involves most of the territory of the Standard Oil Co. of New York can be divided into two sections.

First, by rail in tank cars. It is generally understood, of course, that tank car shipments into the territory east of the Hudson come from western Pennsylvania and the Mid-Continent, for the most part. Shippers of gasoline by tank car into this territory must pay the additional charge for crossing the Hudson River, or else route their cars by way of Albany.

In either case there is an additional cost, which, as pointed out, accounts for the difference in the tank wagon market east and west of the Hudson.

It has probably been noticed that price-cutting in New York State during periods of over-production breaks out most flagarantly in the western part of the State, as far east as Albany, Buffalo, Rochester, Syracuse, Schenectady and Albany are within comparatively easy reach of the refining centers of the interior by tank car. Beyond Albany, however, it is a different story. Railroad facilities from Albany to New England are limited, due to the mountainous country, while, as pointed out, it would not be practical to ship gasoline north to Albany and then down to New York, a distance of about 140 miles.

It happens, therefore, that it is particularly difficult for companies to ship gasoline by rail into that part of the territory of the Standard Oil Co. of New York east of the Hudson River, except in periods when gasoline is selling for 25 to 30 cents per gallon, tank wagon basis.

The other method of invading this territory is by water. It so happens that most of the water facilities for shipping gasoline are owned by the larger Standard and independent oil companies, inasmuch as to maintain tanker, barge and dock facilities takes considerable capital. As already pointed out, harbor facilities in New York are so limited that most of the large marketers of gasoline in New York City maintain their distributing tanks in New Jersey and must defray the additional expense of barging the gasoline from their tanks across the Hudson.

Obviously, New York City and vicinity provides an enormous outlet for gasoline in a very small space. The smallness of the space, however, is the factor which makes the distribution difficult, as suggested in the mention of limited harbor facilities. The same is true of subsidiary storage space in the city proper.

The remainder of the territory of the Standard Oil Co. of New York east of the Hudson—that is, eastern New York and New England, can be reached by water by means of barging gasoline up the Hduson River, on the one hand, and by way of the lesser harbors along the shores of Connecticut, Rhode Island, Massachusetts, New Hampshire and Maine. The practice of marketing inland from distributing stations at Providence, Fall River, Boston and other ports is becoming more and more common. The Standard Oil Co. of New York has only recently added largely to its barge fleet, which carries gasoline from Brooklyn to distributing points along the New England coast.

Many Standard and independent companies now ship gasoline in bulk from Gulf Coast and south Atlantic refineries to such ports as Fall River and Boston direct, from which it is transported inland in tank trucks. Some concerns have been known to market gasoline by this route as far inland as the extreme western part of Massachusetts, not far from Albany.

Can Differential Be Eliminated?

It is difficult to see, in view of actual circumstances, how the differential between Standard of New York and New Jersey prices, accepted as the chief tank wagon indices, can be eliminated. Only in the event of extremely competitive conditions can the expense of bridging the Hudson be ignored.

In the last two years the differential has widened. At one time in 1923 the Standard of New York and Jersey quoted the same price for gasoline, tank wagon basis, but only for a short time. It can be stated with much certainty that the wider differential indicates a healthier condition of the market, while the elimination of the differential under present conditions would be an indication of destructive competition. Only in extreme circumstances are economic factors left out of consideration by marketing companies.

GASOLINE AND FUEL SUBSTITUTES TEXT OF FEDERAL QUESTIONNAIRE

WASHINGTON, D. C., April 25.—The President's Oil Board has called upon the leaders of the oil industry to submit for the consideration of the board their views and such material and data they may have available concerning possible substitutes for domestic well oil and the products now derived therefrom.

The Federal Oil Conservation Board, of which Secretaries Work, Weeks, Wilbur and Hoover and members, is advised by Government experts that "we are now using an average of about 20,000,000 gallons of gasoline daily." This country, the board is further advised by its technical experts, is "the largest producer and the largest consumer of petroleum, with rapidly diminishing resources."

In a letter addressed to the industry, the board sets forth the following:

Alcohol

"(1). We are now using an average of about 20,000,000 gallons of gasoline a day. If alcohol is to supplant any appreciable portion of this amount, the problem arises of supplying the necessary vegetable matter, from waste utilization or primary growth. The waste products such as sawdust, cornstalks, straw, refuse from beet sugar refineries, are scattered in small amounts over the country, involving collection and transportation to plants in case they by manufactured into alcohol. Could the cost of assembling and treating waste products be sufficiently low to make the substitution of alcohol for gasoline attractive on a commercial basis, assuming gasoline prices stationary at present levels?

(2). Could alcohol for motor fuel purposes profitably be made from grains grown for the purpose, in quantities sufficient to affect the demand for gasoline?

(3). Could alcohol for motor fuel purposes profitably be made from potatoes or other vegetables cultivated for the purpose, in quantities sufficient to affect the demand for gasoline?

(4). Would technical difficulties limit the use of alcohol or alcohol mixtures for motor fuel purposes if a continued supply of alcohol were assured on a large scale and at a competitive price?

Benzol

(5). To what extent, quantitatively, can benzol for motor fuel be produced at existing coke oven and carbonization plants.

(6). What is possible total maximum production of benzol for motor fuel, assuming entire coke consumption of the United States thus involved?

(7). What approximate comparative price level (wholesale) could be maintained for benzol fuel production?

(8). What is relative efficiency in motor propulsion of gasoline and (a) alcohol, (b) benzol, (c) mixtures of gasoline and alcohol, (d) mixtures of gasoline and benzol?

(9). What possibilities exist for in-

(Continued on Page 120)

NEWTON EQUIPMENT

Has PROVED Its Efficiency and Economy

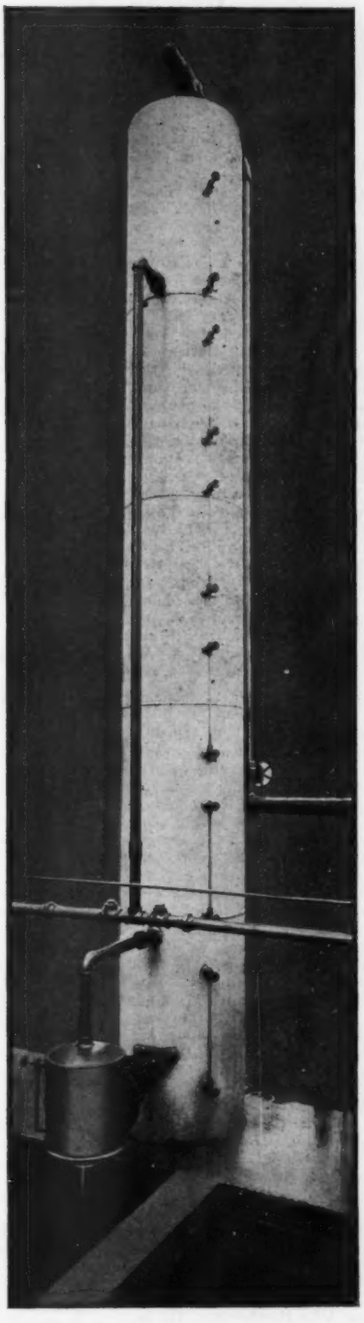
We have the actual figures, taken from the books of the companies who are using NEWTON EQUIPMENT, to substantiate every claim we make for our Absorption Plants, complete or any detail. *We will be glad to furnish these figures upon request.*

NEWTON FEATURES

1. We manufacture and design plants in any capacity to meet your particular requirements, and the plant is sold *without royalty.*
2. Your investment is about one-half the amount required for the ordinary plant and can be erected in about one-half the time necessary for most plants.
3. Operating expense is less. Plants in California are operated by the pumpers who receive a slight increase in salary to keep water in the boilers and pumps lubricated.
4. Newton Equipment is GUARANTEED to extract 100% of a charcoal test.
5. The salvage value is almost 100%. The entire plant, with the exception of the concrete work, can be moved quickly at nominal cost.
6. The operating pressure can be anything from 3 pounds upward. This allows a slight well pressure to operate the plant without installing compressors. Plant will return its investment before machinery is necessary.

WRITE OUR REPRESENTATIVES

Refiners Construction Co.	Hurley Bros.	Tom McGuire
Transportation Bldg.	Kennedy Bldg.	1st Nat'l Bank Bldg.
Los Angeles	Tulsa, Okla.	Denver, Colo.



View of a 30"x20' Absorber, operating at 30 lbs. pressure, at the plant of the Waite Phillips Co., Beggs, Okla., extracting 6,500 gallons gasoline a day: PRICE - - $1,071.00

NEWTON PROCESS MANUFACTURING COMPANY, Fullerton, Calif.

194

NEWTON PROCESS MANUFACTURING COMPANY

Gasoline Manufacturers' Convention

Fourth Annual Meeting Best in Association's History. Educational Value of Papers Aided by General Discussions

By Neil Williams

If interest and educational value have anything to do with it, the annual convention of the Association of Natural Gasoline Manufacturers held at Tulsa Wednesday and Thursday of last week was the best of the four which have been held by the organization.

Of particular interest to the natural gasoline makers was the election of E. L. Peck, manager of the Empire Gasoline Co., of Bartlesville, as president for the ensuing year. Mr. Peck has been one of the most enthusiastic workers in the association and has been on the executive committee ever since his company has been a member of the association. Mr. Peck succeeds D. E. Buchanan, vice president of Chestnut & Smith Corp., who declined to accept reelection.

The two vice presidents of the association were reelected but the association at its business session created a third vice presidency and elected F. E. Rice, of the Phillips Petroleum Corp., of Bartlesville, to that position. The two vice presidents reelected are: Frank L. Chase, operating manager of the Lone Star Gas Co., Dallas, Texas, and A. M. Ballard, vice president of the Twin State Oil Co., Tulsa. The secretary, A. V. Bourque, and treasurer, O. W. Crick, are appointive.

Executive Committee

Thirteen vacancies, caused by expiring terms or changes in membership were filled by election at the convention. Of these eight were reelections. Election to the executive committee, is by company members and not by individuals, the man to serve on the committee being chosen by the company elected. The eight companies reelected to the executive committee and their present representatives who in all probability will remain in office are. Akin Gasoline Co., Tulsa, H. R. Johnson; Amity Gasoline Co., Bartlesville, H. G. Ellis; Barnsdall Oil Co., Tulsa, A. J. Schlosser; Chestnut & Smith Corp., Tulsa, D. E. Buchanan; Marland Refining Co., Ponca City, R. R. Owens; Oil State Gasoline Co.. Tulsa, John M. Hall; Oklahoma Eastern Oil Co., Tulsa, L. C. Ritts; Transcontinental Oil Co., Tulsa, R. P. Humes.

New companies on the executive committee are: Falling Rock Cannel Coal Co., of West Virginia; Hurley Gasoline Co., Tulsa; Prairie Oil & Gas Co., Tulsa; Roeser & Pendleton, Inc., and Wentz Oil Corp., Ponca City.

The nine hold over members of the committe are: Amerada Petroleum Corp., Tulsa, M. E. Mockley; Arkansas Fuel Oil Co., Shreveport, C. W. Mullalley; Carbide and Carbon Chemicals Corp., New York, J. A. Rafferty; Phillips Petroleum Co., Bartlesville, H. A. Trower; Skelly Oil Co., Tulsa, Emby Kaye; Tidal Refining Co., Tulsa, L. F. Bayer; Waite Phillips Co., Tulsa, R. R. Dean, and Texas Pacific Coal & Oil Co., Thurber, Texas, E. R. Lederer.

The new executive committee, which also constitutes the board of directors, will meet in Tulsa in the near future to outline the year's work. The new committe also has been entrusted with the authority to investigate residue gas problems and determine on what might be considered a fair percentage of gasoline return. Resolutions authorizing this investigation were passed unanimously following a paper and discussion on "Residue Gas," by L. F. Bayer of the Tidal Refining Co., Thursday afternoon. This move is considered as one of the most valuable steps taken by the natural gasoline industry as millions of dollars are being lost by natural gasoline makers in residue gas problems.

Although the only addresses which were not purely technical, except the president's annual address and those at the banquet, the talks by Kenyon L. Reynolds and Harry J. Bauer at the Thursday morning session were among the most interesting. Both are officials of the Pacific Gasoline Co., of Los Angeles, and told of conditions under which the oil industry operates in California. Mr. Bauer's formal paper, read by Mr. Reynolds, on "The California Outlook," was covered in full in last week's issue of The Oil and Gas Journal.

Mr. Bauer, who talked extemporaneously following the paper, dealt particularly with natural gasoline problems. He pointed out that it was very difficult for a natural gasoline company to operate in the coast State because of the excessive royalties and because of many speculative promoters who are active there. He explained that because of difficulties in getting a natural gas supply many absorption plants were only portable.

Illustrative of the reckless methods practiced by some natural gasoline makers on the coast, Mr. Bauer told of one company which built an absorption plant on a small tract without the least assurance of ever getting natural gas on which to operate the plant. The plant was built with only a small hope that the company might be able to contract natural gas after the plant was ready to operate.

Lack of any systematic specifications and standards of gasoline quality has been a great drawback for the natural gasoline industry, as well as refiners, in California, Mr. Bauer added. Each plant makes anything and everything in the way of gasoline and buyers do not seem to care what kind of product they get. As a result a manufacturer of a good product cannot get a better price than one who makes an inferior grade. Mr. Bauer pointed out that a movement now is under way or will be shortly to standardize gasoline specifications. He feels that when this is done the California makers will have gone a long way in solving their problems.

Discussions Animated

Every paper presented and every subject discussed was on some problem extremely vital to the natural gasoline making industry. "Safety in Gasoline Manufacturing" was the first problem brought up Wednesday morning. A paper on this subject, read by C. L. Swim of Skelly Oil Co., is printed in this week's issue of the Journal. A discussion following the paper was led by Ray E. Miller, safety director of the Mid-Continent Oil & Gas Association.

At Wednesday afternoon's session, "Absorption Oil" and "Treating" were discussed thoroughly. A. F. Maxson, plant engineer of the Sun Oil Co., Tulsa, read a paper on the former subject. The discussion which followed was led by R. R. Dean, assistant superintendent of the gasoline department of Waite Phillips Co. A paper on "Treating" was read by W. G. Hiatt, research engineer of Phillips Petroleum Co., Bartlesville. R. M. Coyle, assistant superintendent, Chestnut & Smith Corp., Ranger, Tex., led the informal discussion on this subject. Both papers were printed in last week's issue of The Oil and Gas Journal.

Thursday morning's session was given over to business of the association and the talks by Mr. Bauer and Mr. Reynolds of California. Following this the natural gasoline men were the guests of Westcott & Greis at a "Dutch" lunch in the Mayo Hotel.

Closing Session

The convention was rushed Thursday afternoon to crowd three papers and discussions into the closing session. The discussion, led by S. C. Carney, superintendent of the gasoline department of Roxana Petroleum Corp., following a paper on "Water Supply and Water Treatment," by Emby Kaye, general superintendent of the gasoline department of Skelly Oil Co., lasted more than an hour. Even then it ended only so other subjects could be brought up. Mr. Kaye's paper is printed in another part of this issue.

The second paper, "Residue Gas," was read by L. F. Bayer, vice president and general manager of the Tidal Refining Co., Tulsa. J. H. Boyle, secretary-treasurer, Chestnut & Smith Corp., Tulsa, led the discussion on this subject. The closing paper was on "Plant Lubrication." This was read by C. A. Fitz-Gerrell, assistant district manager of the Sun Oil Co., Tulsa. G. M. Davidson, Empire Gasoline Co., Bartlesville, had charge of this discussion. Both these papers are printed in this issue.

The one social event of the convention was the annual banquet and ball of the association Wednesday night. The banquet room was filled to overflowing for this. James A. Veasey, general counsel of the Carter Oil Co., and Horace Hagan, Tulsa attorney, were speakers. Mr. Buchanan, the retiring president, was toastmaster. Following the banquet, Frank L. Chase of Dallas, in behalf of the association, presented to Mr. Buchanan a handsome traveling bag and suitcase in appreciation of his untiring efforts for the organization.

Mr. Veasey attacked theories attributed to the United State Oil Conservation Board, arguing that the carrying out of such plans would be an assault on the rights of individuals and the oil industry as guaranteed by the Constitution. He said there is a serious proposal on the part of the United States to restrict drilling, which authority the Government can not assume legally.

LUBRICATING VALUE OF OILS USED IN OPERATION OF GASOLINE PLANTS

By C. A. Fitz-Gerrell

*Assistant District Manager Sun Co., Tulsa, Okla.**

Efficiency and economy in gasoline plant operation are the features sought by the lubrication engineers, in the interest of the owners. While there are still some divergencies of opinion as to the weights and types of oils best adapted to secure the desired results, it seems that with the knowledge gained by experience in actual operation, in addition to the information available through the United States Bureau of Standards and the American Society of Automotive Engineers, acquired through tests extending over a period of many years, the question of obtaining accurate lubrication has been much simplified and therefore easier to secure.

Experienced engineers seek for the oil that will place the operation of their engines within the tolerance of safety in each direction, avoiding a too heavy oil as carefully as one that is too light. The correct type, which fits and properly serves, is one which supplies fluidity in the delivery of the maximum of power in an even, steady flow, through the stress of all operating conditions, favorable and otherwise.

Maximum conditions as to load and as to operating temperature are vital points to be considered. Too light an oil will be disappointing in its failure to deliver the full power of the engines, when maximum load is carried, or during high temperatures, due to lack of compression and premature brak-down from contamination. Excessive wear is also to be expected. These troubles progress rapidly to serious results when a lubricant of too light body is used. If too heavy an oil is used, sluggishness is apparent, with a tendency to overheat, and the friction drag alone is sufficient to nullify any added power the heavy oil might be expected to supply by furnishing a better piston ring seal. A correctly lubricated gas engine, in good mechanical condition, is as limber as a whalebone whip—silent—powerful.

The lubricating systems of stationary gas engines are well designed, adequate, and of such direct action that they should not be suspected of contributing to faulty operation. This is true also of the cooling systems, although in some sections the lack of a good supply of water is a serious handicap. It seems fair to assume that, with engines in good mechanical condition, as to alignment and bearing adjustment, the oil used must justify itself, with the aid of its proper distribution and a good cooling system.

Change of Opinion

During the last five or six years there has been a remarkable change in the conception of those most interested of the lubricating value of oil as indicated by analysis, or to be more precise, the characteristics as indicated by specifications secured by analysis. This is in particular reference to gravity, flash, fire and viscosity. Viscosity is, as heretofore, regarded as a stable indicator of the ability of oil to stand up, or hold body, under heat. Gravity is not condisered of particular value in determining the lubricating service possible to obtain from oil. Well-informed and experienced lubricating engineers have evidently had a decided change of opinion as to the lubricating value of oils of much lower flash and fire than was commonly accepted as standard for internal combustion engine lubrication a very few years back. No longer can any one crude be credited with any wide advantage in the making of lubricating oils. Specifications are of benefit in checking, and supply needed and necessary information, not only from a merchandising standpoint, but also in indicating applications for various lubricating services. They are, however, not now accepted as an accurate disclosure of real virtue in the oil. Crudes from the different fields vary widely as most certainly do the oils made from these different crudes. However, the accepted and approved standards of a few years back were such that oils that are now considered especially efficient for internal combustion engine lubrication were much discriminated against; in fact, practically eliminated where standards were strictly adhered to. At that time marketers of oils that did not conform to these standards were compelled to sell on a basis of performance only. Remarkable head-

(Continued on Page 111)

*Before Association of Natural Gasoline Manufacturers, Tulsa.

Compare the COLOR

Beginning
Where others leave off

Cabin Creek Crude's wonderful purity is accomplished in the painstaking laboratory of old Mother Earth. Man-made refining processes chemically alter the dark murky color of ordinary crudes.

Clean, transparent, amber-colored Cabin Creek crude is frequently mistaken, even by the experienced oil man, for a highly refined oil rather than crude petroleum.

It is unlike any other crude oil in the world. It is super-Pennsylvania.

Cabin Creek Crude always commands a premium price over all other crudes.

Think,—The quality of the raw material predetermines the quality of the finished product.

THE PURE OIL COMPANY

General Offices: COLUMBUS, OHIO

Refineries at:
MARCUS HOOK, PA.
WARREN, PA.
HEATH, OHIO
CABIN CREEK JCT., W. VA.
MINNEAPOLIS, MINN.
CUSHING, OKLA.
ARDMORE, OKLA.
MUSKOGEE, OKLA.
SMITH'S BLUFF, TEXAS

Branch Offices at:
CHICAGO
DALLAS
NEW YORK
MINNEAPOLIS
WARREN, PA.
PITTSBURGH
TULSA, OKLA.
CHARLESTON, W. VA.

The OIL and GAS JOURNAL

PRODUCING REFINING MARKETING

Published Weekly by
THE PETROLEUM PUBLISHING COMPANY
114-116 West Second Street
TULSA, OKLA.

Established as an International Publication in 1910 by Patrick C. Boyle

President - - - - - - - - - - - - Frank T. Lauinger
Vice President and General Manager - - Robert W. Egan
Treasurer - - - - - - - - - - - - - H. J. Bryan
Secretary - - - - - - - - - - - - - W. T. Bryan
Editor - - - - - - - - - - - - - James McIntyre
News Editor - - - - - - - - - - Andrew M. Rowley
Associate Editor - - - - - - - - - W. T. Anderson
Refinery Editor - - - - - - - - - - C. O. Willson
Advertising Manager - - - - - - - - Clarence Morris
Circulation Manager - - - - - - - - J. P. Mulkern

DISTRICT ADVERTISING OFFICES
30 Church Street, NEW YORK — 1328 Peoples Gas Bldg., CHICAGO, ILL.
PITTSBURGH, PA., 1003 Jones-Law Bldg.

TERMS OF SUBSCRIPTION
(By Mail, Postage Prepaid)

Single copies	$ .15	One year (in United States)	$6.00
Three months	$2.00	One year (in Canada)	$7.00
Six Months	$3.00	One year (foreign countries)	$7.00

ADVERTISING RATES ON APPLICATION
Telephones: 6291-6292-6293
Remittances by Checks, Drafts, Express or Postal Money Orders should be made payable to
The Petroleum Publishing Company
Cable address, "Oilgasnal"

MEMBER AUDIT BUREAU OF CIRCULATIONS

CONCRETE CONSERVATION

The Federal Oil Conservation Board originated, as President Coolidge expressly stated, in an alarm lest the nation be deprived of its supply of that indispensable factor in modern warfare, industry and commerce.

The simplest and surest way to avert that shortage would be, of course, to store our present surplus against any such emergency.

The Federal Oil Conservation Board has the opportunity to perform a big, outstanding service to the country, incidentally conferring a great benefit on the oil industry, by recommending that the Government provide large above-ground supplies of petroleum as a safeguard for time of war or scarcity.

There is nothing impractical about the suggestion except, perhaps, the probable impossibility of getting Congress to take a common sense view of the matter. Even that might be helped by a straightforward recommendation from the Government conservation board endorsed by the President.

Great reservoirs could be established at strategic points throughout the country. The oil could be purchased during periods of overproduction at low prices.

The Government coming into the market at such times would do much toward stabilizing prices and saving the industry from periods of demoralization, at the same time avoiding the extreme fluctuations that confuse the public.

It is not prudent for the country to rely upon estimated supplies hidden beneath the surface of the earth. No one has the knowledge to make even approximate guesses. The drill has made every estimate of our petroleum in the ground ridiculous within a few years afterwards.

The science of geology has not progressed to the stage where it can be depended upon to locate petroleum deposits in given quantities. The reserve set aside by the Navy Department at Teapot Dome, for instance, was variously estimated to contain from between 400,000,000 to 200,000,000 barrels but the final test of the drill disclosed a potential production then estimated at not more than 26,000,000 and possibly as low as 12,000,000 barrels.

In the event of the nation engaging in a great future war, enormous quantities of oil would be required. For the Government to commandeer the oil in storage would immediately cripple industry through soaring prices at a time when industrial needs would be greatest.

Experience has shown that wartime needs for oil extend enormously farther than the supplying of fuel for the Navy, the Army and the air forces. It will be needed just as urgently and much more extensively in the industries required to furnish the means of war. The Allies may have "floated to victory on a sea of oil" but how much would America's effort here at home have been handicapped had we not had the motorized transport and oil powered industry which gave us such incomparable strength?

The increasing rate of consumption of petroleum and its products is so rapid as to make the problem of a visible supply for national defense a subject worthy of the most serious consideration by those entrusted with the future safety of the nation.

Since oil is so essential we cannot take any chances. We cannot afford to risk trusting in a reserve estimated at 200,000,000 barrels only to discover in the hour of emergency that we can obtain only 25,000,000 or perhaps 12,000,000 barrels from it.

The practicability of storage is established. A hundred million barrels of oil at an average price of less than $2 would cost the Government less than $200,000,000. Reservoirs could be constructed on a basis of 50 cents a barrel, making the combined outlay for oil and storage amount to $250,000,000, less than half the amount expended in the airplane fiasco during the war, and less than the cost of a dozen battleships.

Compared with the investment in battleships an interesting difference may be observed. After its construction a battleship is immediately depreciated. It suffers a heavy charge-off for obsolescence. Expenses of operation, for fuel, supplies, wages of officers and crew are extremely burdensome. The vessel itself has a highly depreciated market or intrinsic value. After a few short years when its course is finally run its last service is to serve as a Naval target to be sunk into the depths.

Such likewise to a large degree is the character of the larger investments of the Government in fortifications, engines of war, armament and munitions of all kinds.

The investment in stored oil, however, would be of an entirely different nature. In comparison with other investments for national defense the carrying charge would be comparatively light.

Bought in periods when prices are low appreciated values would help carry the burden. Petroleum does not depreciate very rapidly. It has been carried in storage for years. Evaporation losses have been reduced so as to be comparatively negligible. It has been found that crude loss in storage may average 3 per cent the first year and 2 per cent the second year.

But there would be no such shrinkage as from 200,000,000 barrels to 25,000,000 or possibly only 12,000,000 barrels, as in guessing at reserves underground.

Oil in storage has at all times an immediate market value which may be carried on the Government's balance sheet as a quick asset. With little additional expense the oil reserves could be guarded by detachments of the nation's standing army. Danger from fire can be averted by modern equipment.

It may be urged that hostile airplanes would endeavor to destroy such known reserves. Our coast defenses, bases of supplies, mills and factories are all exposed to the same dangers; battleships are likewise exposed to airplanes and submarines.

The Government could discriminate in purchases, securing high gravities and best grades at lowest prices when the markets are most favorable. After adoption of such a program the oil could be purchased over a period of years limiting the outlay to $50,000,000 or $75,000,000 a year including erection of storage reservoirs. The plan could be carried along on a conservative basis, feeling the way.

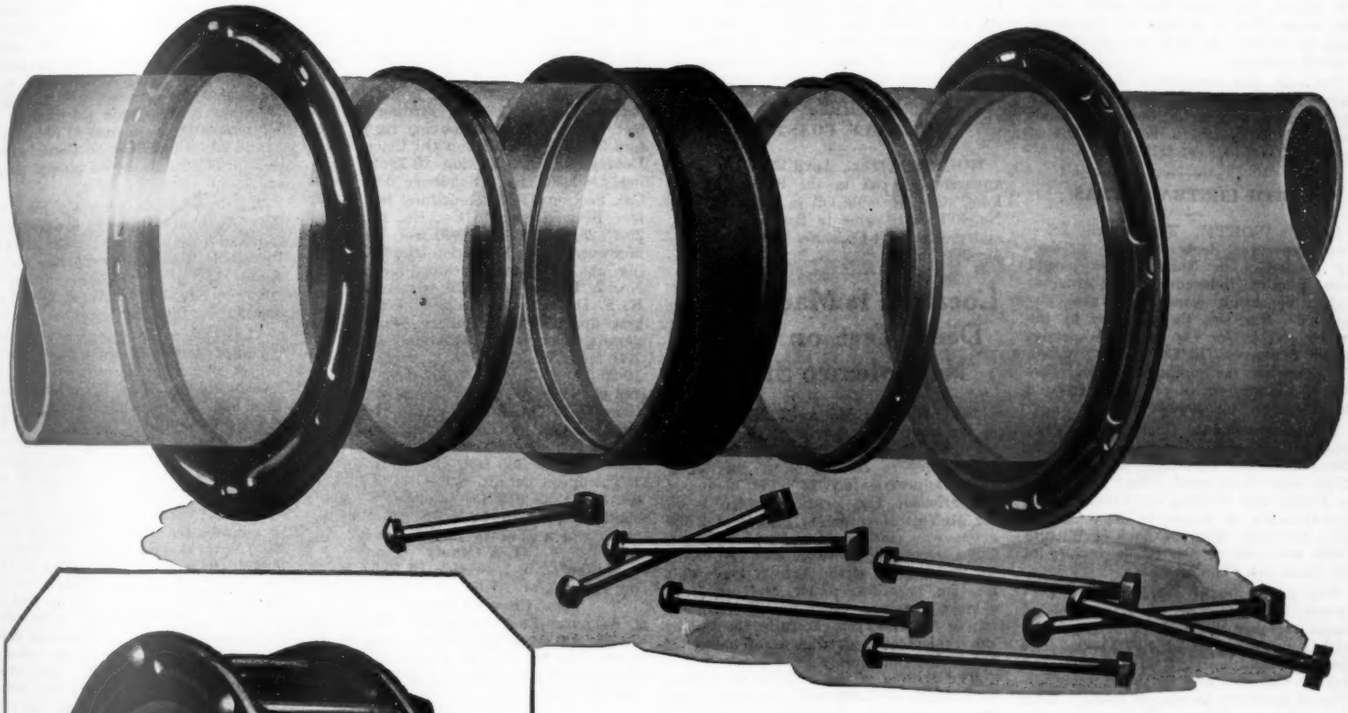
The stabilization of prices which would be assisted by this policy would stabilize production and solve many of the problems of operation and utilization with which the Conservation Board is now concerning itself.

The industry established upon a steady basis would have opportunity to develop along the best lines and with the greater efficiency and conservation. The public would profit from assurance of constant supply at stable prices that would maintain production. Oil would not be depressed to compete with coal with consequent waste in utilization.

If the Federal Oil Board desires to formulate a statesmanlike economic policy on petroleum from a national standpoint it will give special consideration to the possibilities in the storage of oil against future needs. If it succeeds only in getting Congress to think about it sanely and soberly something practical may be developed.

Storage of visible oil would be concrete conservation, infinitely wiser and more practical than theoretical conservation of mere estimates underground.

DRESSER
SIMPLICITY



DRESSER COUPLING STYLE 38

Simple in design, strong and flexible, Dresser Couplings will stand any pressure the pipe will carry, take care of all expansion and contraction, and permit the line to conform to the irregular contour of the country through which it is laid.

Dresser lines will remain permanently tight, or may be easily taken up and re-established. Their efficiency and economy, for every class of work, have been fully demonstrated.

S. R. DRESSER MANUFACTURING CO.
BRADFORD, PENNA., U. S. A.

DRESSER-COUPLINGS-DOMINATE

Late News From the Fields

MEXICO

By George Blardone

TAMPICO, Mex., April 26.—La Corona Petroleum Co.'s No. 3, Lot 11, Corcovado sector of the northern fields, showed 4 per cent salt water and 30 per cent sediment while flowing around 7,000 barrels. It has been shut in. This was the first real strike in the Corcovado sector when it came in February 7 at 2,140 feet. Mexican Petroleum Co.'s No. 5 San Pedro, completed April 18 for 15,000 bbls. at 1,805 feet, showed over 20,000 bbls. on test, and is no doing 16,000 bbls. This well is just west of No. 3 and it is possible it contributed to the appearance of salt water in the Corona well.

Transcontinental Petroleum Co.'s No. 16 Paciencia, south of the National Lines' No. 12, reported having shown some salt water, but came back after being shut in to allow it to head up, has again gone to water. At best now it is only a small stripper.

The only pay completion this week is National Lines' No. 23 Punta Arena, a Federal zone well in the Lomas y Llanos sector of the northern fields, estimated good for 5,000 bbls. at 2,180 feet.

NORTH CENTRAL TEXAS

FORT WORTH, Tex., April 28.—Two important deals whereby producing properties in North Texas passed from smaller independent concerns to major operating companies are announced. One was the purchase by the Prairie Oil & Gas Co. of the properties of the Shamrock Oil Co. for $2,000,000. The other was the purchase by The Texas Co. of the properties of the Petroleum Producers Co. for $900,000.

The property of the Shamrock company consisted of scattered leases in the North Texas fields and elsewhere. It had about 2,700 bbls. daily production, principally in Archer and Wichita Counties. About 10,000 acres of leases in New Mexico were included. Charles Clark of Wichita Falls was one of the prime factors of the Shamrock Oil Co.

The properties of the Petroleum Producers Co. consisted of 280 acres of leases together with 41 producing wells with a daily output of 1,325 bbls. The company held acreage in Wichita and Archer Counties and in the Nocona district of northern Montague County. John O'Donohoe of Wichita Falls was active head of the company. The Texas Co., since January, is said to have spent around $7,000,000 for producing properties in North Texas.

Underwood and others drilled a new wildcat in Wichita County, No. 1 Pace, 1½ miles from production in the Hill & Roberts Pool of Wichita County. The pay sand was reached at 1,784 feet and was drilled into only two feet. The well is estimated making 75 bbls., not yet completed. The Mitchell well of Hill & Roberts, also in Wichita County, is showing for an excellent producer. Sand was encountered at 1,501 feet and was drilled into only 18 inches. The well is reported swabbing at the rate of 150 bbls.

Two new wells, neither completed, are reported from the South Vernon Pool. The Humble Oil & Refining Co.'s No. 14 Castlebury is estimated making 100 bbls., from sand at 1,275-98 feet. Preparations are being made to put it on the pump. McCamey and others' No. 19 Stephens is estimated good for 30 bbls. daily from sand 1,270 to 1,307 feet. It is being rigged to pump.

There are a number of new producers in Archer County that should be completed early this week. In the north half, Phillips Petroleum Co. has a producer in No. 59 White, reported making 90 bbls. from sand topped at 1,601 feet and drilled to 1,608 feet.

In the south half, the Magnolia Petroleum Co.'s No. 1-B Rogers is a 40-bbl. well in sand at 1,335 feet. Murchison and others' No. 1 Goldsmith is reported making 60 bbls. from sand topped at 1,342 feet and drilled into 12 feet. The Shamrock Oil Co.'s No. 19-B Richardson is flowing at the rate of 125 bbls. daily from sand 1,272-78 feet. The Texas Co. has two producers on its Ragle lease, Nos. 26 and 27, the former making 35 bbls. from 13 feet of sand topped at 1,077 feet, and the latter making 50 bbls from seven feet of pay topped at 1,083 feet.

The Texhoma Oil & Refining Co.'s No. 14 Harbison is reported good for 85 bbls. from a pay sand topped at 1,336 feet and drilled to 1,359 feet, and the United Central Oil Co.'s No. 6 Rogers is estimated making 90 bbls. from sand at 1,334-51 feet.

OKLAHOMA

The Meridian Petroleum Co.'s No. 1 Raymond, NE cor SW SE Section 1-15-12, is standing with 1,500 feet of oil in the hole. Sand was topped at 2,052 feet, and penetrated 4 feet. The company is cleaning out cavings and preparing to run a string of pipe before testing out the sand.

GULF COAST

HOUSTON, Tex., April 28.—The flush apparently is off in the South Liberty Pool. The Humble Oil & Refining Co.'s No. 3 Pickett came in flowing 600 bbls. and the Sun Oil Co.'s No. 2 Schade, flowing 300 bbls.

Location Is Made for Deep Test on Large New Mexico Structure

ARTESIA, N. M., April 25.—Interest in the local field centers in the location for a deep test to be drilled by Snowden-McSweeney in the center of Section 4-21-30, approximately 18 miles northeast of Carlsbad. The location, which is on the McNutt Government permit of 2,560 acres, was made by Dr. V. H. McNutt, Tulsa geologist, to whom goes the credit for the opening of the Artesia Pool. This location, according to Dr. McNutt, is on a large structure, which has also, according to reports, been carefully checked by the geological departments of many of the major companies.

The drilling of the well, which will go to a depth of 3,000 feet, or deeper, will be watched with considerable interest, as it is in the much favored southeast trend.

Another test in this direction that is now attracting attention is the W. C. Wells' No. 1, located in the center of Section 19-20-30, and which has encountered a good showing of both oil and gas at a depth of 1,490 feet. It is the belief of many operators in this field that the big production will be obtained between the present producing area and the Big Lake Field of Reagan County, Texas. As a result of this, much wildcatting is expected to be carried on with a number of locations already made.

In the proven area, the Gilliland Oil Co.'s No. 1, in the NE NE Section 29-18-28, has topped a second sand a depth of 2,130 feet. It is reported that this hole will be to 2,200 feet. The well now appears to be a 100-bbl. producer.

Having missed the regular 2,000-foot sand, McNutt and others' No. 1 Simpson, in Section 7-18-28, is now drilling around 2,300 feet.

Drilling Operations

Following is a drilling report of the field. Barker No. 1, Barker permit, SW cor., Section 26-17-29, drilling below 60 feet. Brainard No. 1, Brainard permit, Section 29-17-27, drilling below 1,525 feet. C. J. & W. Oil Co.'s No. 1, Section 17-18-28, location. R. D. Compton's No. 1, Section 16-18-28, drilling. California's No. 1 A. R. Goodale permit, Section 30-18-29, shut down for repairs at 2,187 feet. Compton Brothers, Section 16-18-28, rigging up. Cheesman's No. 1, Section 34-18-28, drilling below 1,200 feet. Danciger's No.2, Section 4-18-28, rigging up. Danciger's No. 3, Section 17-18-28, spudding in. Dooley's No. 1, Section 11-20-29, shut down. Hogan, California Reiff, No. 1 Reiff permit, Section 8-20-28, below 750 feet. Hogan, Johnson No. 1, Section 34-19-28, commenced drilling operations. Hogan, Robinson No. 1, Robinson permit, Section 10-20-28, location. Illinois, McNutt, Simpson No. 1, Section 7-18-28, shut down for wire line. Illinois Producers No. 11, Section 29-18-28, drilling below 1,400 feet. Illinois Producers No. 12, Section 29-18-28, below 1,250 feet. Illinois Producers No. 13, Section 28-18-28, drilling below 200 feet. Illinois Producers' No. 14, Section 28-18-28, drilling at 250 feet. Illinois Producers' No. 15, Section 29-18-29, rigging up. Levers' No. 1 Cronin permit, Section 1-18-27, rigging up. Los Angeles, New Mexico No. 1, Section 8-18-28, spudding in. Maljamar No. 2, Section 28-18-28, below 300 feet. McCann & Dunnett No. 1, Section 14-16-27, location. Miller Olson No. 1, Olson permit, Section 4-20-27, drilling below 1,500 feet. Marland Oil Co. No. 1 Johnson permit, Section 34-19-28, spudding in. New State No. 2, Section 4-18-28, drilling below 1,925 feet. Ohio Oil Co. No. 1 Tracy permit, Section 34-21-26, drilling below 2,000 feet. Ohio Oil Co. No. 1 McCullough permit, Section 1-20-28, drilling at 450 feet. Rehn & Barnett moving rig to Section 26-18-28, on Marion Oil Co. acreage. Rotary Oil Co., Section 29-18-28, drilling at 1,400 feet. Sandburg Petroleum Co., Section 17-18-28, drilling below 200 feet. Seven River Oil Co., No. 1, Section 29-18-28, drilling at 1,800 feet. Snowden-McSweeney No. 1, Section 21-18-28, drilling at 300 feet. Snowden-McSweeney, No. 2, Section 33-18-28, rigging up. V. K. F. Drilling Co., Section 17-18-28, rigging up. Welch and others' No. 1 Dunn permit, Section 10-18-28, drilling at 1,700 feet. W. C. Wells, No. 1, Section 19-20-30, drilling at 1,500 feet, oil and gas showing. W. R. Wilson, No. 1, Section 27-17-29, shut down at 500 feet. Grant Keys, location made, Section 26-20-30. Burgess, No. 1, Section 18-18-29, shut down at 300 feet. George Bobb, No. 1 Thompson permit, Section 18-17-28, to set 8-inch at 618 feet and deepen hole; shallow wells to be drilled to 600-foot sand, which appears good for 5 bbls.

Lea County

Fenton's No. 1, Section 19-16-34, building rig.

Chaves County

Arkansas Fuel Co., SE cor. Section 14-15-17, on Manning Dome, spudded in. California Oil Co., Section 24-10-28, rig. Hogan and others, Section 29-17-18, building rig and camp.

President W. G. Skelly Names Chairmen of Oil Show Committees

At the first meeting of the officers and directors of the International Petroleum Exposition since the election of W. G. Skelly, president of the Skelly Oil Co., as president of the Exposition, Archie W. Leonard was appointed chairman of the congress and conventions committee; P. D. Hayes, chairman of the attractions committee; Frank J. Hinderliter, chairman of the building and grounds committee; W. M. Bovaird, chairman of the finance committee; Fred Insull, chairman of the parades and pageant committee; D. D. Wertzberger, chairman of the exhibits committee; Alf G. Heggem, chairman of the scientific and technical committee; A. F. Bourne, chairman of the committee on public safety and service, and O. C. Staples, chairman of the transportation committee. Each chairman was empowered to select his own committee members and may go outside of the Exposition in making his choice of helpers.

The first meeting of the directors was held at the home of President Skelly and was attended by the full board and by the officers and directors of last year's exposition.

Ask Reduced Rate On Heavy Gravities Of Coastal Crudes

HOUSTON, Tex., April 27.—Another menace to prices on Coastal crude looms up, three large users of heavy gravity crudes requesting the Interstate Commerce Commission for a reduced rate on crude from Smackover, Ark., to Houston, Galveston, Texas City and Freeport.

The present rail rate on crude from Arkansas to the Gulf is 14 cents per hundred pounds or about 43½ cents per bbl. It applies only on crude oil to be be loaded on tankers and not on oil for local consumption. The same rate is in effect from Smackover to New Orleans points.

The Freeport Sulphur Co., Swiftsure Petroleum Co. and others have asked the Interstate Commerce Commission to make the 43½ cents per bbl. apply on oil for local delivery at Houston, Galveston, Texas City and Freeport. Heavy gravity Smackover crude can now be bought in the field for 40 cents per bbl., which added to the 43½ cents rate, plus loading and and unloading costs, would make the Smackover product cost only about 87 cents or 90 cents delivered at the points mentioned, against $1.75 for Grade A and $1.50 for B grade Coastal crudes, to which must be added pipeage charges and other costs.

The Freeport Sulphur Co. has a topping plant at Freeport, handling Mexican and Coastal crudes. The Swiftsure Petroleum Co. has a topping plant at Texas City. The Sulphur company requires about 4,000 bbls. of fuel oil per day when operating to capacity.

The three sulphur companies are large users of fuel oil, ranking next to the railroads. The Freeport Sulphur Co. operates deposits at Bryan Heights and Hoskins Mound in Brazoria County; the Union Sulphur Co. operates at Sulphur, La., and Big Creek, Fort Bend County, Texas. The company is drilling tests at Big Creek. The Texas-Gulf Sulphur Co. is operating at Big Hill, now known as Gulf, in Matagorda County. It is reported this company will substitute natural gas for fuel oil, getting its supply from the Houston Pipe Line Co., a subsidiary of the Houston Oil Co., which is preparing to pipe gas from west of Edna, Jackson County to the Gulf.

There has been a noticeable decline in the shipments of Coastal crudes to Atlantic coast refineries. Large buyers, such as the Vacuum Oil Co., Atlantic Refining Co., Galena-Signal, and a few others, which absorbed most of the Coastal production of such corporation as the Humble Co., for instance, are now handling their own crude. The Vacuum Co. ships from Texas City. The Atlantic Co. buys both light and heavy gravities and ships from Port Arthur, Smith Bluff and its tank farm at Arco on the Neches River above Port Arthur. The Galena-Signal Oil Co. has a refinery on the Houston ship channel. The Sinclair interests are getting approximately 1,200 bbls. per day from Damon Mound and West Columbia, with a pipe line from those pools to its refinery on the ship channel. The Pure Oil Co. has a plant at Smith Bluff.

Thus former buyers of Coastal crudes, which was shipped North, now have their own refineries along the Gulf and the consignments of Coastal crude are being replaced with shipments of lighter grades from the fields to the north.

The Sun Oil Co. and Magnolia Petroleum Co. are buyers in the Webb-Jim Hogg Counties, buying at $1 per bbl. in competition with the Gulf crude. The Luling crude also competes with the Coastal product to a large extent.

Gulf Coast crude occupies a peculiar position in that it is neither "flesh nor fowl." It is the basis for zero cold test lubricating stocks, but the demand for this grade is not very great in warm weather, therefore the Coastal crude seeks an outlet through the fuel oil markets, which puts it in competition with cheaper heavy gravity crudes.

IDEAL
WIRE LINE GUARD

Made To Fit

All Sizes of

IDEAL Traveling

Blocks

THE NATIONAL SUPPLY COMPANIES

North-Central Texas Field

By George R. Kelley

Production reaches highest point in two years. Berkley and others' No. 1 Pritchard, Stephens County, making 1,000 bbls. daily. Riter-Foster Corp.'s wildcat in Throckmorton flows by heads every four hours, estimated 50 bbls. Moore and others' No. 1 Gafford, Brown County, makes 432 bbls.

FORT WORTH, Tex., April 27.—An unusually large increase in production, the bringing in of a new 1,000-bbl. well in southern Stephens County and the discovery of a wildcat in Throckmorton County were the features of the week in the North Texas oil fields. The increase was just a little short of 8,000 bbls. in average daily output and production for the week ending April 23 stands at the highest point at any time within two years.

Total daily output of the fields is 155,295 bbls., compared with 147,397 bbls. for the previous week, showing a gain of 7,898 bbls. Every producing area with the exception of the older pools in the south division, showed good gains. Even the old producing area of Clay County showed an increase of 95 bbls. The losses were confined to Stephens County with a decline of 67 bbls., Ranger with a drop of 4 bbls., Moran with a loss of 110 and the Eastland-Comanche Pool with a decline of 2 bbls.

Heaviest Gain in Reagan

The heaviest gains were in Reagan County and Young County. Reagan showed an increase of 5,085 bbls., while Young County registered a gain of 730 bbls. Wilbarger County gained 485 bbls., Brown County 415 bbls., and Callahan County 428 bbls. Gains in Burkburnett, Electra and in Archer County were substantial but not large, especially in comparison with gains in some of the other fields. Burkburnett was up 280 bbls., Electra 295 bbls., and Archer County 145 bbls.

Of course, the one big item in the production increase was Reagan County's gain, due to the Big Lake Oil Co.'s No. 18 University with a flush of 8,753 bbls. The Texon Oil & Land Co.'s No. 9 Group 1 University was also added to the producing list with 1,712 bbls. daily.

A total of 93 wells were completed in this district during the week, of which 55 were oil wells, 35 failures and three gas wells. New production added was 17,027 bbls., and 8,000,000 feet of gas. This compares with 86 completions for the previous week, 40 of which were producers, 36 failures and two gassers, with new production amounting to 8,249 bbls.

Archer County led in the number of completions with 37 and made some better showing in new production than last week. Twenty completions were producers and 17 failures. New production totaled 2,336 bbls. Wilbarger County had 15 completions, 11 producers, two failures and two gas wells. New production for this field was 1,587 bbls., and 5,500,000 feet of gas daily. Young County reported 13 completions, 9 producers with 1,578 bbls. new production and 4 dry holes. Wichita County 12 completions, 6 failures and 6 producers, making a total of 290 bbls. Stephens County had 3 completions, 1 dry hole and 2 small producers with a combined output of 89 bbls. flush, while Eastland County reported only one completion, a failure. There were 12 completions in the miscellaneous districts, 7 producers, 4 failures and 1 gas well. New production amounted to 11,147 bbls., 2,500,000 feet of gas daily.

Brown County Wells

Outside of the big Reagan County completions already mentioned, probably the most noteworthy well was Moore and others' No. 1 Gafford, northern part of Brown County, which is making 432 bbls. from sand at 1,247 feet. This is probably the largest completion ever recorded in Brown County. There were two other completions in northern Brown County, both on the Newton farm. McMurray and others' No. 4 Newton is making 100 bbls. and Mendenhall and others' No. 3 Newton is a 75-bbl. producer.

There was nothing out of the ordinary in Archer County, with the exception of two good completions by White Brothers on their Kunkel lease in the south part of the county. Their No. 8 Kunkel is making 440 bbls., and No. 9 is making 260 bbls. Had it not been for these two completions, Archer would have made another very poor showing this week. The two wells furnished practically 50 per cent of the new production from that county.

In northern Young County The Texas Co. finished five wells on the Gambrell lease northwest of the town of Olney. They were Nos. 4, 12, 14, 17 and 20, making 120 bbls., 232 bbls., 230 bbls., 190 bbls., and 450 bbls., respectively.

Wilbarger County reported a number of good wells. The largest producer was Bridwell and others' No. 5 Dill, making 450 bbls. The Humble Oil & Refining Co. completed No. 11 Castlebury for 200 bbls., and No. 12 and No. 19 Stephens for 300 and 100 bbls., respectively. Kolp's No. 3 Waggoner is also listed as a completion making 300 bbls. daily. All these wells are within the proven area and have no significance other than increasing the production. The Gulf Production Co. has completed No. 1-R Waggoner in Wilbarger County for 137 bbls., at 1,797 feet. It is an offset to the Levy and others' Waggoner wildcat completed several weeks ago.

Hope in Throckmorton

Efforts of North Texas operators to uncover something of commercial value in Throckmorton County were given some little reward during the week by the promise being held out by the Riter-Foster Corp.'s No. 1 Stubblefield. The well is a rank wildcat, there being absolutely no production of consequence anywhere in Throckmorton County.

The Stubblefield has been drilled only 1½ feet into the sand which was topped at 2,972 feet. Since the sand was encountered the well has been flowing by heads about every four hours making an estimated 50 bbls. The showing, while not large is tending to attract considerable attention of operators. A lot of wildcatting is being done in Throckmorton County just at this time, evidently in the hope of picking up the producing sands of south Archer and north Young County.

In the extreme southern part of Stephens County Barkley and others' No. 1 Pritchard drilled into a sand at 3,534 feet early in the week. At 6 feet in the pay the well began spraying oil steadily and making frequent flows. It is estimated the well is now making 1,000 bbls. daily. It is one-half mile from any other production and no doubt will result in further drilling in that section of Stephens and Eastland counties. The well is about 8 miles northwest of the town of Ranger, in Eastland County.

Landreth Production Co.'s No. 1 Gratz in Stephens County, though not completed, is making 105 bbls. daily from sand topped at 2,890 feet and drilled into 2½ feet. The Texas Pacific Coal & Oil Co.'s No. 6 Adams, also in Stephens County, is making 55 bbls. from sand topped at 2,145 feet and drilled to a total depth of 2,215 feet.

In Scurry County, just to the north of the Mitchell County fields, the Northwest Oil Co.'s No. 2 Moore is showing for a producer at 1,800 to 1,840 feet. It is making oil at an estimated rate of 20 bbls., on the swab.

South Vernon Field

There are three near completions in the South Vernon Pool of Wilbarger County. The Humble Oil & Refining Co.' No. 15 Stephens, recently taken over from the South Vernon Oil Co., is making an estimated 100 bbls., daily from the sand at 1,350 feet. Kolp and others' No. 5 Waggoner is swabbing at the rate of 40 bbls. daily from sand at 1,400 feet and the Oxford Oil Co.'s No. 2 Waggoner is estimated making 100 bbls. from the deeper pay at 2,078 feet.

A large number of wells that are now producing oil in Archer County and which should be among the early completions the coming week, should add materially to the new production. Riner and others' No. 12-B Wilson in the north half of the county is showing considerable production from sand topped at 1,617 feet. On a 13-hour test the well swabbed 125 bbls.

In the south half of the county there are several wells showing for production. Christie Brothers' No. 3 Campbell Bank is making between 350 and 400 bbls. a day from sand topped at 1,297 feet and drilled to 1,323 feet. Fisher and others' No. 4 Rogers is estimated making 125 bbls. from sand at 1,337 to 1,350 feet and the Magnolia Petroleum Co.'s No. 1 Wilburn is estimated making 100 bbls. at 1,317 to 1,321 feet.

Murchison and others' No. 4 Echols, northeast of the Harmel Pool is making oil at an estimated rate of 150 bbls., in sand at 1,327 to 1,347 feet, while Shaw and others' No. 2 Rogers is estimated to be making 75 bbls. of oil at 1,269 to 1,278 feet. The Texhoma Oil & Refining Co.'s No. 14 Harrison is making about 100 bbls. from sand at 1,336 to 1,359 feet and the United Central Oil Co.'s No. 6 Rogers is estimated good for 100 bbls. from 1,334 to 1,351 feet.

In northern Young County the Humble Oil & Refining Co.'s No. 9 Schlegel is swabbing oil at a daily rate of 300 bbls. from sand encountered at 1,172 feet and drilled to a total depth of 1,184 feet. The Simms Oil Co.'s No. 4-B Carpenter is estimated making 150 bbls. from sand at 1,030 to 1,041 feet.

PRODUCTION REPORT

For the Week Ending April 23, 1925

Burkburnett	
Gulf Production Co.	675
Humble Oil & Refining Co.	400
Magnolia Petroleum Co.	2,940
Panhandle Refining Co.	310
Prairie Oil & Gas Co.	10
Sinclair Oil & Gas Co.	40
Sun Co.	165
The Texas Co.	550
Texhoma Oil & Refining Co.	460
Miscellaneous	9,420
Total	14,970
Electra	
Empire Gas & Fuel Co.	1,045
Gulf Production Co.	935
Humble Oil & Refining Co.	100
Magnolia Petroleum Co.	3,890
Panhandle Refining Co.	60
The Texas Co.	3,615
Texhoma Oil & Refining Co.	1,645
Miscellaneous	6,310
Total	17,600
Iowa Park	
Gulf Production Co.	45
Humble Oil & Refining Co.	10
Magnolia Petroleum Co.	510
Panhandle Refining Co.	35
Texhoma Oil & Refining Co.	60
Miscellaneous	3,600
Total	4,260
Archer County	
Empire Gas & Fuel Co.	540
Gulf Production Co.	3,520
Humble Oil & Refining Co.	925
Magnolia Petroleum Co.	760
Panhandle Refining Co.	255
Prairie Oil & Gas Co.	920
Sun Co.	145
The Texas Co.	2,350
Texhoma Oil & Refining Co.	2,485
Miscellaneous	28,330
Total	40,310
Petrolia	
Gulf Production Co.	270
The Texas Co.	65
Miscellaneous	270
Total	605
Stephens County	
Empire Gas & Fuel Co.	85
Gulf Production Co.	1,360
Humble Oil & Refining Co.	905
Magnolia Petroleum Co.	850
Mid-Kansas Oil & Gas Co.	1,710
Prairie Oil & Gas Co.	715
Sinclair Oil & Gas Co.	110
Sun Oil Co.	270
The Texas Co.	1,580
Texas Pacific Coal & Oil Co.	1,040
Miscellaneous	7,560
Total	15,885
Ranger	
Gulf Production Co.	335
Humble Oil & Refining Co.	50
Magnolia Petroleum Co.	615
Mid-Kansas Oil & Gas Co.	235
Panhandle Refining Co.	290
Prairie Oil & Gas Co.	505
Sinclair Oil & Gas Co.	390
The Texas Co.	235
Texas Pacific Coal & Oil Co.	880
Miscellaneous	3,020
Total	6,555
Moran	
Empire Gas & Fuel Co.	55
The Texas Co.	125
Texhoma Oil & Refining Co.	120
Miscellaneous	2,330
Total	2,630
Young County	
Gulf Production Co.	525
Humble Oil & Refining Co.	500
Mid-Kansas Oil & Gas Co.	30
Panhandle Refining Co.	245
Prairie Oil & Gas Co.	10
Sinclair Oil & Gas Co.	390
The Texas Co.	2,300
Texhoma Oil & Refining Co.	550
Miscellaneous	6,605
Total	11,155
Eastland-Comanche	
Humble Oil & Refining Co.	205
Magnolia Petroleum Co.	1,135
Mid-Kansas Oil & Gas Co.	240
Prairie Oil & Gas Co.	120
Sinclair Oil & Gas Co.	30
The Texas Co.	145
Texas Pacific Coal & Oil Co.	115
Miscellaneous	1,865
Total	3,855
Miscellaneous Pools	
Wilbarger County	6,955
Palo Pinto County	625
Montague County	105
Jack County	25
Brown County	1,675
Coleman County	70
Callahan County	4,365
Mitchell County	1,720
Reagan County	19,135
Scurry County	10
Caron County	1,980
Hutchinson County	730
Wheeler County	100
Gray County	55
Total	37,540
Total this week	155,295
Total last week	147,397
Gain	7,898

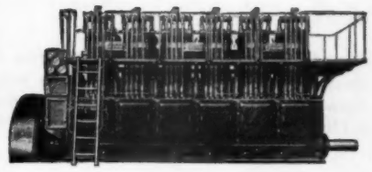
Completions

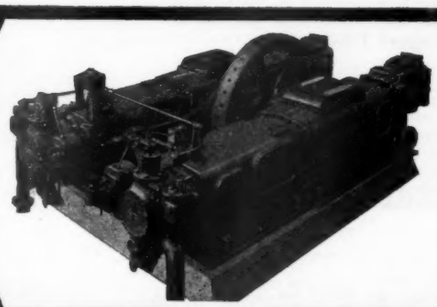
Wichita County: Fisher and others' No. 1 Parker, 5 bbls., at 751 feet; Gulf Production Co.'s No. 11 Jennings, dry at 2,010 feet; No. 12 Jennings, 60 bbls., at 1,523 feet; Burkland and others' No. 5 Burnett, dry at 1,600 feet; Dale Oil Corp.'s No. 9 Jennings, 40 bbls., at 1,471 feet; Hampton and others' No. 1 Fisher, dry at 1,346 feet; Howell and others' No. 8 Burnett, dry at 1,992 feet; Leath and others' No. 1 Fossett, dry at 1,884 feet; Ryan Petroleum Co.'s No. 28 Nance, 45 bbls., at 1,306 feet; No. 31 Nance, 55 bbls., at 1,320 feet; No. 32 Nance, 8' bbls., at 1,332 feet; Waller and others' No. 1 Waller, dry at 2,222 feet.

Wilbarger County: Atlantic Oil Producing Co.'s No. 1 Waggoner, dry at 2,424 feet; Bridwell and others' No. 5 Dill, 450 bbls., at 2,305 feet; Continental Oil Co.'s No. 2 Zipperle, 40 bbls., at 1,825 feet; Gulf Production Co.'s No. 1-R Waggoner, 127 bbls., at 1,797 feet; Humble Oil & Refining Co.'s No. 11 Castlebury, 200 bbls., at 1,324 feet; No. 12 Castlebury, 300 bbls., at 1,318 feet; No. 10 Stephens, 100 bbls., at 1,339 feet;

Continued on Page 118)

The Bessemer Type FC-1 Compressor. A four-cycle direct driven compressor with a remarkably low fuel consumption. Incorporates all Bessemer standard features and many engineering improvements.





The Bessemer Diesel—a lifetime power unit for all heavy duty requirements of from 50 H.P. to 1000 H.P. Safe and dependable in operation and economical in upkeep.

Sound Investments

Use the same thought in selecting your oil field equipment that you would in making an investment in securities.

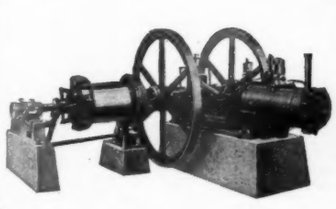
Whether your investment in such equipment is large or small don't overlook the element of security—don't gamble.

Bessemer equipment represents a sound investment that pays dividends in increased operating time, decreased depreciation and lower upkeep cost. If you require Gas Engines, Oil Engines, Compressors, Pumps or Roller Pumping Powers investigate Bessemers—and you will invest in Bessemers and be happy.

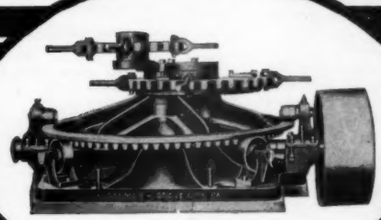
THE BESSEMER GAS ENGINE COMPANY

52 York Street Grove City, Pa.

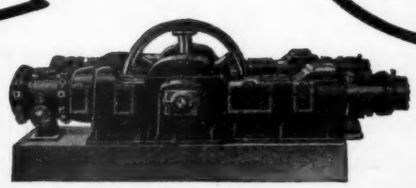
BESSEMER



The Bessemer Type Ten Compressor. A two-cycle unit unmatched for continuous service, low upkeep and efficient operation.



The Bessemer Oil Field Engine—known for its year-in, year-out service under the most severe operating conditions in all of the world's oil fields.



Bessemer Roller Pumping Powers. For shallow well pumping there is no better pumping power. Their upkeep cost is practically nil and their only attention required is oiling.

Oklahoma Field Operations

By J. L. Dwyer

Majority of producing areas in Oklahoma showed a decline in production last week despite fact numerous new wells were completed. Bement well again stops flowing and will be pumped. Cromwell Pool extended east and west. Prairie Oil & Gas completes 900-bbl. well in Davenport Pool.

Oklahoma oil fields showed a little activity in several spots last week without any particular territory holding the limelight. The Bement well, in Pawnee County, SE cor. SW SE, Section 30-23-5, which has been flowing and quitting at intervals has apparently left the ranks of flowing wells and has once more gone dead. The well swabbed and flowed about 210 bbls. last Thursday and has done nothing since that time. A string of tubing is being sent out from Cushing and the well will be put on the pump.

North of Holdenville, the Gypsy Oil Co.'s No. 1 Proctor, SW cor. NE, Section 35-8-8, is making 5 bbls. per hour and 5,000,000 feet of gas from sand at 3,256-68 feet. This may develop into good production. It is a quarter mile west and a location south of the original well drilled by Johnson & Ash, which had about the same amount of gas, but little oil.

W. B. Pine has a new Wilcox well southeast of Okmulgee that is estimated at 250 bbls. This well, which offsets an old producer in the Wilcox sand, is probably the opener of a new Wilcox Pool in the Okmulgee district. The original well is still pumping about 20 bbls. from the Wilcox sand. The Pine well is in the SW cor. Section 20-12-14, topped the Wilcox sand at 2,814 feet and penetrated to 2,862 feet in sand. There are four new wells announced as a result of the Pine find.

At Burbank the production for the week has slipped again in spite of the completion of six new inside wells.

South of Bristow, the Shaffer Oil & Refining Co. had the Bartlesville sand at 2,720 feet in No. 2, SE cor. NE NE, Section 6-14-9. The well had a showing of gas to 2,767 feet, and at 2,768 the hole began to fill up slowly with water. This well is a diagonal location southeast of the gas well in the Bruner sand that the Shaffer company completed some time ago.

Cromwell Extended

The Cromwell Pool production for last week also dropped in spite of the completion of several new wells. The pool was extended a quarter mile to the east on the north end by McMan Oil Co.'s No. 3 Hill, SW cor. NW SE, Section 34-11-8. This well is the fartherest producing well to the east, and had sand at 3,350-87 feet, with the first oil at 3,368 feet. It is good for 1,200 bbls. daily.

Cromwell was extended a quarter mile to the west by the Devonian Oil Co.'s No. 1, NW cor. SW NE, Section 8-10-8. This is a very light well to date, swabbing about 80 bbls. daily from sand at 3,437-54 feet. Considering sand conditions in this pool, the poor production of the well does not necessarily condemn the territory to the west, and may be the cause of additional drilling in that direction.

On the extreme north end of the Cromwell production line, the Gypsy Oil Co. completed No. 4 Jackson, in the SE cor. NE, Section 33-11-8, the lightest well on that lease. It is good for about 125 bbls., as compared to the other wells on the south line of the lease, all of which had an initial production of better than 1,000 bbls. It extended production a long location to the east. South of this well, the Sinclair Oil & Gas Co. and the Gardner Petroleum Co. have a good production on their lease, the west half of SW, Section 34-11-8, and the completion of wells now drilling on the north end of this lease will determine the trend of production in this section of the pool.

The Gypsy Oil Co. still has a daily production of better than 6,000 bbls. on the Jackson lease, south half NE, Section 33-11-8.

Papoose Also Declines

The Papoose Pool followed the suit of the other major pools of Oklahoma and showed a drop in production in spite of an increase in the number of producing wells. The completed wells were principally inside locations which did not materially extend the limits of the pool. The Carter Oil Co. has built a rig in the SW cor. NW, Section 31-10-10, half a mile from the nearest drilling well.

At Davenport, the Prairie Oil & Gas Co. drilled in the best well of the pool to date in No. 3, SE cor. NW, Section 3-14-5. This well made 900 bbls. the first 24 hours from sand at 3,398-3,456 feet.

Near Wewoka, the Magnolia Petroleum Co. has a failure in No. 1 Manley, C NW SE NW, Section 23-7-8, where a hole full of water was encountered at 3,318 feet.

Production of the principal pools in Oklahoma for the week ending April 22 follows

Tonkawa

Company—	Wells	Prod.
Amerada Petroleum Corp.	39	3,350
Blackwell Oil & Gas	34	1,311
Carter Oil Co.	4	112
Champlin Refining Co.	2	10
Champlin Ref. Co. and Twin State Oil Co.	1	11
Comar Oil Co.	340	29,377
Cosden Oil & Gas and Marland Oil Co.	16	198
Gypsy Oil Co.	47	11,509
Healdton Oil & Gas Co.	27	1,210
Wentz Oil Corp.	44	13,366
McMan Oil Corp.	2	396
Pennok Oil Co.	32	2,337
Phillips Petroleum Co.	3	158
Prairie Oil & Gas Co.	12	508
Sinclair Oil & Gas Co.	1	11
T. B. Slick and Comar Oil Co.	32	2,748
Southwestern Petroleum Co.	13	527
The Texas Co.	6	2,200
White Eagle Oil & Ref. Co.	7	123
Total	662	69,462

Tonkawa Deep Sand Only

Amerada Petroleum Corp.	6	4,305
Pennok Oil Co.	7	1,416
Comar Oil Co.	43	21,827
Gypsy Oil Co.	16	8,240
T. B. Slick	7	1,193
Blackwell Oil & Gas Co.	4	942
Wentz Oil Corp.	5	13,145
The Texas Co.	2	1,144
Phillips Petroleum Co.	1	73
McMan Oil Corp.	1	536
Total	92	52,821

Burbank Field

Carter Oil Co.	255	8,531
Midco Petroleum Co.	106	2,178
Comar Oil Co.	7	128
Devonian Oil Co.	16	205
Lewis Oil Co.	3	246
Gypsy Oil Co.	196	4,127
Kewanee Oil & Gas Co.	25	400
Laurel Oil & Gas Co.	16	190
Lorraine Petroleum Co.	15	121
Midland Oil Co.	37	1,007
Mid-Kansas Oil & Gas Co.	40	1,282
Peters & Oliphant	2	147
Phillips Petroleum Co.	143	15,287
Phillips Petroleum Co. and Delmar Oil Co.	16	1,353
Phillips Pet. Co. and Skelly Oil Co.	176	4,100
Prairie Oil & Gas Co.	106	2,170
Producers & Refiners Corp.	29	407
Roxana Petroleum Corp.	55	617
Simons & Moore	29	273
Sinclair Oil & Gas Co.	145	2,569
Skelly Oil Co.	23	881
Tidal-Osage Oil Co.	43	685
The Texas Co.	14	767
Twin State Oil Co.	24	838
Total	1,521	48,499

Kay County Extensions—

George S. Bole	3	263
Carter Oil Co.	11	1,064
Comar Oil Co.	19	1,072
Mid-Co. Petroleum Co.	16	1,133
Gypsy Oil Co.	19	342
Laurel Oil & Gas Co.	5	203
Mid-Kansas Oil & Gas Co.	10	771
Phillips Petroleum Co.	31	3,327
Prairie Oil & Gas Co.	4	177
Pure Oil Co.	5	350
Roxana Petroleum Co.	8	326
Dye & Tomlinson	8	493
Skelly Oil Co. and Phillips Pet. Co.	20	422
Sinclair Oil & Gas Co.	5	262
The Texas Co.	16	271
Twin State Oil Co.	15	1,133
Total	195	11,609

Cromwell Field

Amerada Petroleum Co.	10	552
Berry Petroleum Co.	1	36
Burke-Greis	4	251
Carter Oil Co.	40	6,303
Carter Oil and Gardner Petroleum Co.	8	50
Central National Petroleum Co.	8	718
Continental Oil Co.	3	204
Midco Petroleum Corp.	32	1,788
Empire Gas & Fuel Co.	4	286
Gilliland Oil Co.	8	85
Gypsy Oil Co.	45	9,015
Gypsy Oil Co. and Laurel Oil Co.	4	1,313
T. B. Hoffer et al	3	34
Holmes & Jarvis	1	5
Houston Oil & Gas Co.	2	353
Independent Oil & Gas Co.	3	38
Kingwood Oil Co. and Sinclair Oil & Gas Co.	4	98
McMan Oil Co.	13	1,534
Mid-Kansas Oil & Gas Co.	4	284
Prairie Oil & Gas Co.	8	1,039
Pure Oil Co.	12	123
Roxana Petroleum Co.	22	2,352
Shaffer Oil & Ref. Co.	8	369
Sinclair Oil & Gas Co. and Gardner Petroleum Co.	6	2,832
Sinclair Oil & Gas Co.	25	6,990
Snowden & McSweeney	3	550
Southwestern Petroleum Co.	17	5,346
Superior Oil Co.	6	228
Tidal-Osage Oil Co.	11	1,350
H. F. Wilcox Oil & Gas	7	50
Waite Phillips Pet. Co.	13	1,224
White Eagle Oil & Ref. Co.	1	92
Total	336	45,492

Papoose Production

Amerada Petroleum Co.	2	650
Arkansas Fuel Oil Co.	1	3
Berry Petroleum Co.	3	124
Carter Oil Co.	3	1,693
Midco Petroleum Corp.	15	3,894
Foster Investment Co.	6	352
Gilcrease Oil Co.	3	49
Gilcrease Oil Co. and Papoose Oil Co.	1	5
Gypsy Oil Co.	3	591
Independent Oil & Gas	12	3,828
Independent Oil & Gas Co. and Atlantic Oil Prod. Co.	1	182
Indian Territory Illum. Oil Co.	4	697
Josey Oil Co.	2	367
Kingwood Oil Co.	10	1,351
Magnolia Oil Co.	2	30
Continental Oil Corp.	1	40
Papoose Oil Co.	12	856
Prairie Oil & Gas Co.	6	839
Phillips Petroleum Co.	1	281
Robinson and Amerada Pet. Co.	6	1,607
Skelly Oil Co.	1	152
T. B. Slick et al	34	5,593
T. B. Slick and Gypsy Oil Co.	4	1,214
Transcontinental Oil Co.	11	1,987
H. F. Wilcox Oil & Gas Co.	1	82
Mid-West & Gulf Co.	1	235
Total	148	26,712

South Weleetka Field

Magnolia Petroleum Co.	4	206
Mid-Kansas Oil & Gas Co.	9	369
Tidal Osage Oil Co.	14	1,330
Total	27	1,905

Wewoka Field

Berry Petroleum Co.	1	480
Bogg & Sykes	7	1,007
Dixie Oil Co.	35	2,402
Gypsy Oil Co.	2	32
Homaokla Oil Co.	2	41
Independent Oil & Gas Co.	6	185
Atlantic Oil Prod. Co.	2	19
Lewis & Clark	1	45
Magnolia Petroleum Co.	25	1,480
Producers & Refiners Corp.	18	1,825
W. R. Ramsey	2	266
W. R. Ramsey et al	5	2,795
Roxana Petroleum Corp.	3	385
Shaffer Oil & Ref. Co.	7	1,504
Total	116	12,466

Yeager Pool

Dixie Oil Co.	1	443

Holdenville District Pipe Line Runs

Midco Petroleum Co.	4,539
Gulf Pipe Line Co.	4,843
Magnolia Petroleum Co.	8,184
Oklahoma Pipe Line Co.	15,558
Ozark Pipe Line Co.	9,398
Prairie Oil & Gas Co.	20,271
Producers & Refiners Corp.	1,876
Shaffer Oil & Refining Co.	1,873
Sinclair Oil & Gas Co.	16,897
Empire Pipe Line Co.	2,429
Pure Pipe Line Co.	166
Consolidated Pipe Line Co.	1,370
Storage	10
Total	87,621

In the Cromwell Pool

The Carter Oil Co. has completed No. 8 Dunn, NE cor. NW NW Section 3-10-8. Sand was 3,354-99 feet, and the well is good for 754 bbls. Its No. 9 Dunn is completed for 1,254 bbls. from sand 3,343-82 feet; No. 12 Dunn, NW cor. SE NW Section 3-10-8, is drilling at 500 feet; No. 13 Dunn, NE cor. SE NW Section 3-10-8, is drilling at 400 feet; No. 14 Dunn, SW cor. NE NW Section 3-10-8, is drilling at 425 feet; No. 15 Dunn, SE cor. NE NW Section 3-10-8, is drilling at 284 feet; and the company is building the rig for No. 16 Dunn, NE cor. NW Section 3-10-8.

The Prairie Oil & Gas Co.'s No. 1 Hill, SW cor. NE Section 3-10-8, is completed for 514 bbls. from sand 3,387-3,483 feet. It was shot with 14 quarts, which did not increase the production. Its No. 2 Hill, SE cor. SW NE Section 3-10-8, is drilling at 800 feet, and the company is rigging up No. 3 Hill, NW cor. SW NE, Section 3-10-8.

The Skelly Oil Co., is rigging up No. 1 Little, NW cor. NE SE Section 3-10-8. The Southwestern Petroleum Co. is drilling at 600 feet in No. 2 Little, SW cor. NW SE Section 3-10-8. In No. 3 Little, NW cor. SW SE Section 3-10-8, is drilling at 210 feet; No. 6-A Wisner, has completed NW cor. SE NE Section 4-10-8. Sand was 3,420-81 feet, and the well is good for 450 bbls.

The Laurel Oil & Gas Co. is spudding No. 1 Remy, NE cor. NE Section 5-10-8. The Magnolia Petroleum Co.'s No. 1 Williams, SE cor. NE Section 5-10-8, topped sand 3,419 feet, had first oil 3,436 feet, bottom sand 3,458 feet, and is drilling in shale at 3,525 feet. It did not flow.

The Roxana Petroleum Corp. has a rig for No. 4 Curley, NE cor. NW SW Section 14-10-8. Snowden & McSweeney's No. 2 Curley, SE cor. NW NW Section 14-10-8, is drilling at 760 feet.

The Carter Oil Co.-Gardner Petroleum Co.'s No. 1 Sands, SW cor. SE Section 27-11-8, is a new rig. The Mid-Continent Petroleum Co. is drilling at 500 feet in No. 1 Roberts, SE cor. NE Section 32-11-8. The Prairie Oil & Gas Co.'s No. 1 Williams, SE cor. SE Section 32-11-8, is drilling at 825 feet. The Carter Oil Co. is spudding No. 2 Baker, SW cor. SE NW Section 33-11-8. The Carter Oil Co. has completed No. 1 Williams, which made 716 bbls. after a shot of 20 quarts in sand 3,396-3,452 feet. It made 500 bbls. naturally before the shot. The Pure Oil Co. is spudding No. 5 Jackson, SW cor. SW Section 33-11-8. The Sinclair Oil & Gas Co. and the Houston Oil Co. have spudded No. 2 Hill, SW cor. NW NE Section 33-11-8. The Sinclair-Houston Co.'s No. 1 Hill, SE cor. NW NE Section 33-11-8, is being rigged up. The Sinclair Oil & Gas Co.'s No. 3 Pierce, NW cor. NE SE Section 33-11-8, made 1,080 bbls. from sand 3,361-3,417 feet.

The Waite Phillips Co.-Mid-Continent Co.'s No. 2 Brown, NE cor. SW Section 33-11-8, is completed for 420 bbls. from sand 3,430-38 feet. The same companies have a rig on the ground for No. 7 Brown, SE cor. NW SW Section 33-11-8 and for No. 8 Brown, SW cor. NE SW Section 33-11-8. The McMann Oil Co. is building the rig for No. 5 Pierce, SE cor. SW Section 34-11-8. The Sinclair Oil & Gas Co. and Gardner Petroleum Co.'s No. 5 Hill, SW cor. NW SW Section 34-11-8, is completed for 765 bbls. from sand 3,351-90 feet. The Sinclair Oil & Gas Co.'s is rigging up tools to deepen No. 1 Jackson, SW cor. NW Section 34-11-8, which was good for 724 bbls. natural in sand 3,404-31 feet. The Sinclair Oil & Gas Co. is building the rig for No. 2 Jackson, NW cor. SW NW Section 34-11-8.

The Prairie Oil & Gas Co. is building the rig for No. 3 Williams, NW cor. NE SE Section 32-11-8, and for No. 4 Williams NE cor. SE SE Section 32-11-8.

Papoose Pool

The Amerada Petroleum Corp. and Gilcrease Oil Co. have completed No. 2 Harjo, NW cor. SW SW Section 36-

Natural Gasoline

An Assured Supply of Guaranteed Grades

All Grades are Manufactured by Chestnut & Smith Corporation

GRADE "DOUBLE A"

Recovery	Not less than 90%
End Point	Not over 375° F.
Gravity	80.0 to 87.9° Be.

GRADE "DOUBLE B"

Recovery	Not less than 85%
End Point	Not over 375° F.
Gravity	84.0 to 92.0° Be.

GRADE "A"

Recovery	Not less than 90%
End Point	Not over 375° F.
Gravity	72.0 to 79.9° Be.

GRADE "B"

Recovery	Not less than 85%
End Point	Not over 375° F.
Gravity	76.0 to 83.9° Be.

GRADE "C"

Recovery	Not less than 78%
End Point	Not over 375° F.
Gravity	80.0 to 90.0° Be.

These are the Official Specifications for Natural Gasoline as adopted and issued by the Association of Natural Gasoline Manufacturers—October 1, 1924

CHESTNUT & SMITH CORPORATION

GENERAL OFFICES-CHESTNUT & SMITH BLDG.- TULSA, OKLA.

10-9. Sand was 3,357-78 feet with 10,000,000 feet of gas and 585 bbls. per day. T. B. Slick's No. 5 Bruner, SE cor. NW NW Section 2-9-9, is good for 90 bbls. from sand 3,323-32 feet. Independent Oil & Gas Co.'s No. 8 Alexander, SE cor. NE Section 2-9-9, made 1,200 bbls. the first 24 hours from sand 3,337-73 feet, Independent Oil & Gas Co.'s No. 6 Alexander, NE cor. SE NE Section 2-9-9, made 125 bbls. the first 24 hours from sand 3,333-78 feet. Independent Oil & Gas Co.'s No. 5 Alexander, NW cor SE NE Section 2-9-9, made 125 bbls. from sand 3,337-72 feet.

Mid-Continent Petroleum Co. has completed No. 2 Alexander, SE cor. SW NW Section 3-9-9, for 50 bbls. from sand 3,267-3,331 feet. This well had a break from 3,272-75 feet. The Prairie Oil & Gas Co.'s No. 2-A Vincent SW cor. SE SW Section 34-10-9, is making 2,000,000 feet of gas and a spray of oil from sand 3,263-86 feet, break 3,286-94 feet, total depth 3,308 feet.

The Mid-Continent Petroleum Co.'s No. 1 Walker, CSL SE SW SW Section 16-10-9, is drilling at 210 feet. The Carter Oil Co.'s No. 7 Johnson, NE cor. SE SE Section 33-10-9, had 5,000,000 feet of gas in sand 2,930-3,070 feet and is drilling in sand at 3,073 feet. The Carter Oil Co.'s No. 8 Johnson, NW cor. SE SE Section 33-10-9, had 8,000,000 feet of gas in sand 2,915-3,070 feet and is drilling ahead. Jennings and others' No. 2 Barnett, SE cor. SE SW Section 33-10-9, had 125 bbls. on the swab from sand 3,059-70 feet and is drilling ahead. The Independent Oil & Gas Co.'s No. 8 Alexander, NW cor. SW NE Section 2-9-9, is spudding.

Seminole County

The Magnolia Petroleum Co.'s No. 1 Carolina, NE cor. NE SE Section 15-8-7, had sand 3,182-90 feet, and is swabbing 70 bbls. The Dixie Oil Co. is building the rig for No. 2 Liggon, NW cor. SW SE Section 25-8-7.

The Superior Oil Corp. has made a location and ordered out the rig for No. 1 NE cor. SW Section 6-7-8. The Prairie Oil & Gas Co. is rigging up No. 2, NW cor. NE NE Section 14-7-8. W. R. Ramsey is building the rig for No. 1 C NW NW Section 14-7-8, and is spudding No. 1 NW cor. NW NE Section 10-6-8.

In the Burbank Field

The Phillips Petroleum Co. has completed six wells on its Burbank lease, in the NE quarter, Section 11-27-5. Number 3, SW cor. SE NE Section 11-27-5, had sand 2,972-3,036 feet, and made 350 bbls. naturally. It was shot with 150 quarts, and made 600 bbls. Number 6, NE cor. SW NE Section 11-27-5, has 3,000,000 feet of gas and 700 bbls. naturally in sand 3,031-3,104 feet. Number 7, NW cor. SE NE Section 11-27-5, had sand 2,980-3,036 feet and was good for 100 bbls. naturally. It was shot with 140 quarts and made 300 bbls. Number 8 C EL NE SE NE Section 11-27-5, had sand 2,945-99 feet, and made 200 bbls. naturally. It was shot with 120 quarts and made 250 bbls. Number 10, SE cor. NW NE Section 11-27-5, had sand 3,031-88 feet, and made 250 bbls. naturally. It was shot with 150 quarts which did not improve the flow. Number 11, SW cor. NE NE Section 11-27-5, had sand 2,946-3,007 feet, was shot with 140 quarts and made 250 bbls.

The Phillips Petroleum Co. is building the rig for No. 1, SW cor. NW Section 12-27-5; is moving in a rig for No. 2, CSL SE SW NW Section 12-27-5; its No. 4, SE cor. NW Section 12-27-5, is drilling at 483 feet; is moving in the rig for No. 5 CWL NW SW NW Section 12-27-5, and for No. 6, NE cor. SW NW Section 12-27-5; is spudding No. 8, CEL NE SE NW Section 12-27-5; moving in the rig for No. 9, CWL SW NW NW Section 12-27-5; is drilling No. 13, NW cor. NW NW Section 12-27-5, at 340 feet; spudding No. 14, CNL NE NW NW Section 12-27-5; and drilling No. 16, NE cor. NW Section 12-27-5, at 236 feet.

The Phillips Petroleum Co. has completed No. 1 CWL NW SW SW, Section 12-27-5, in sand 2,972-3,034 feet, first flow at 3,000 feet. This well was good for 100 bbls. naturally and was shot with 140 quarts which produced 700 bbls. Number 6, NE cor. SW SW Section 12-27-5, had sand 2,983 feet, made the first flow at 3,000 feet and is drilling in sand at 3,030 feet.

The Carter Oil Co.'s No. 3, SE cor. SE Section 31-27-6, is dry and abandoned at 2,934 feet. The Roxana Petroleum Corp.'s No. 2 CSL SE SW SW Section 4-26-6, is dry and abandoned at 2,787 feet. The Carter Oil Co.'s No. 7, SW cor. NE NW Section 9-26-6, is dry and abandoned at 2,796 feet. This is an old gas well drilled deeper. The Sinclair Oil & Gas Co.'s No. 3, SE cor. NE Section 1-26-5, is dry and abandoned at 2,908 feet.

The Owen-Osage Co.'s No. 322, NW cor. SW SE Section 8-27-11, is completed as a 5,000,000-foot gas well from sand 585-685 feet. Owen-Osage Co.'s No. 321, CEL SW Section 10-27-11, had 1,000,000 feet of gas in the Mississippi lime, 1,900-04 feet. Skelton & Moore's No. 6, SE cor. NE SW Section 32-26-12, had Bartlesville sand 1,559-1,586 feet. The hole filled up with oil and is being cleaned out.

Wrightsman and others' No. 4, CSL NE NE SW Section 19-25-8, is drilling at 234 feet. Oliphant and others' No. 1, CNL NW Section 31-25-8, is fishing for tools at 260 feet. The Petroleum Drilling Co.'s No. 13, CEL NE SE NW, Section 4-25-9, is drilling at 385 feet. The Olean Petroleum Co.'s No. 4 CSL SE NW SE Section 19-25-9, had Burgess sand 2,269-99 feet, first oil at 2,277 feet. It was shot with 60 quarts and made 90 bbls. the first 24 hours, and is now swabbing 60 bbls. The 45 Oil Co.'s No. 38, CEL NW NE Section 5-25-12, had Bartlesville sand 1,645-87 feet, and was shot with 100 quarts. It is swabbing 60 bbls.

The Riverland Oil Co. and others have a dry hole in No. 1, NW cor. NW Section 8-24-8, total depth 2,949 feet.

Peters and others are building the rig for No. 2, CWL SW NE Section 32-24-9. They completed No. 4 CSL SW SE SE Section 12-23-8. Bartlesville sand was 2,017-2,102 feet and the well made 54 bbls. after a shot of 150 quarts.

Foster & Norwood's No. 4 CSL NW SE Section 23-24-9, had the Bartlesville sand 2,071-2,163 feet and made a very small flow after a shot of 300 quarts. The flow stopped, and the well is being cleaned out.

R. E. Seaman and others are drilling at 775 feet in No. 1, SE cor. NW Section 32-24-8. The Beacon Oil Co.'s No. 3, CWL NW SW Section 21-23-8, had a show of oil in the shallow sand 793-98 feet, had oil 808-25 feet, was shot with 60 quarts and is pumping water. B. P. McDonald's No. 3, C north half NE Section 27-22-8, had a light show of oil, 2,704-2,720 feet, and is drilling at 2,725 feet. The Mid-Kansas Oil Co.'s No. 1 SW cor. NE Section 21-23-10, is drilling at 400 feet.

The Atlantic Oil Producing Co.'s No. 3, NW cor. SE Section 8-22-9, had 1,000,000 feet of gas and a hole full of water in sand 1,525-80 feet. The 10-inch casing is being run at 1,608 feet. The Amerada Petroleum Co.'s No. 2 CWL SE Section 16-22-9, made 100 bbls. from sand 2,399-2,404 feet, and is drilling ahead at 2,455 feet. The Twin States Oil Co.'s No. 11, CSL NE SE NW Section 32-22-10, is a 15-bbl. well in the Bartlesville sand 1,765-99 feet. It was shot with 40 quarts.

The Tidal-Osage Oil Co.'s No. 41, SE cor. SW NW Section 34-22-10 had broken sand in the Bartlesville, 1,765-1,930 feet, light show of oil in the Burgess sand, 1,975-84 feet, light show of oil and gas in top of lime 1,984 feet. It is drilling at 2,140 feet. The Tidal-Osage Oil Co. has spudded No. 42, CWL NW NE NW Section 34-22-10. The Indian Territory Illuminating Oil Co. is digging the cellar for No. 2, NW cor. NW Section 1-21-8; moving in rig timbers and digging the cellar for No. 3, CNL NW NW Section 1-21-8; and digging the cellar for No. 4, CWL SW NW Section 1-21-8.

The Skelly Oil Co. and others are building the rig for No. 2 SE cor. NE NE Section 2-21-8, and digging the cellar for No. 3, NE cor. NE Section 2-21-8. The Skelly Oil Co. and Ohio Osage Oil Co.'s No. 1, CSL SE Section 3-21-9, is swabbing 30 bbls. of oil from the Bartlesville sand, 2,238-92 feet; it will be shot. Titus and others' No. 5, CNL NE NE Section 23-21-10, had a show of gas at 2,198 feet. It is drilling at 2,348 feet.

The Ramsey Oil Co.'s No. 1, CWL NW NW Section 27-28-11, is dry and abandoned at 1,823 feet. A. M. Landon's No. 1, CSL SW NW Section 15-28-9, is drilling at 1,625 feet. The Owen-Osage Co.'s No. 323 CEL NE NW NE Section 36-28-10, is drilling at 400 feet. Duffield & Howard's No. 3, SE cor. SE SE Section 28-28-11, topped Peru sand at 968 feet, through at 1,020 feet, drilling at 1,023 feet.

L. Friedman and others have a machine rigging up for No. 3, NE cor. NW Section 12-24-11. The Owen-Osage Co. has completed No. 320, CSL SE NW NE Section 32-24-12. It had 6,000,000 feet of gas from 1,811-17 feet. B. P. McDonald's No. 3, C north half NE Section 27-22-8, had a light show of oil at 2,730 feet, and is drilling at 2,750 feet. The Continental Oil Co. has a rig and tools in for No. 1, CNL SW Section 10-22-10. The Mid-Continent Petroleum Co.'s No. 1, SW cor. NW SW Section 24-21-8, is drilling at 265 feet. The Barnsdall Oil Co.'s No. 5, C south half NW SE Section 24-21-8, had a light show of oil in a stray sand 914-34 feet, a show in the Layton sand 1,159-82 feet, and is drilling at 1,225 feet.

Creek County

The Eastern Oil Co.'s No. 9 Roberts, is trying to drill by tools at 3,834 feet. The hole filled with oil from sand 3,792-3,820 feet. The Prairie Oil & Gas Co.'s No. 8 Rentie, SE cor. NE SW Section 2-14-8, filled up 300 feet with oil in 15 hours from sand 2,241-99 feet. It was shot with 50 quarts and the hole is bridged. The Prairie Oil & Gas Co. is spudding No. 9 Rentie, NE cor. SE SW Section 2-14-8. The Skelly Oil Co. is spudding No. 5 McKane, SW cor. SW Section 12-14-8. The Skelly Oil Co. has a rig up for No. 6 McKane, SE cor. NW SW Section 12-14-8. C. G. Tibbins has built the rig for No. 3 Bearhead, SW cor. NW NW Section 13-14-8. The Prairie Oil & Gas Co.'s No. 2 Bearhead, NE cor. NE Section 14-14-8, is drilling at 345 feet. The Prairie Oil & Gas Co. has a rig on the ground for No. 3 Bearhead, SE cor. NE NE Section 14-14-8.

The Carter Oil Co.'s No. 1 Smith, CNL NW SW NE Section 29-15-9, is a failure at 3,691 feet. L. S. Coryell and others are drilling No. 1 Winter, CSL SW NW NE Section 30-15-9, at 350 feet. The Skelly Oil Co. and Frank Billingslea has completed No. 3 Fields, NW cor. SE SW Section 30-15,9. Sand was 3,057-66 feet, and the well is good for 150 bbls. natural. Skelly Oil Co. and Billingslea are drilling at 400 feet in No. 4 Fields, CSL SE SE SW Section 30-15-9. C. G. Tibbens has completed No. 7 Fields, CSL NW SW, Section 30-15-9. Sand was 3,032 36 feet, and the well is making 1,000 bbls. naturally. He is spudding No. 10, CEL NE SW Section 30-15-9, and has a rig on the ground for No. 14, C NE SW Section 30-15-9.

The Pulaski Oil Co.'s No. 1 Long, NE cor. SW, Section 6-14-9, had broken sand in the Layton 1,250-1,340 feet. It had a show of gas and oil and is being cleaned out. The Twin States Oil Co.'s No. 1 Jackson, SW cor. SW Section 22-14-8, is dry and abandoned at 3,147 feet. The Phillips Petroleum Co.'s No. 2 Penn, NE cor. SE NW Section 24-14-9,

(Continued on Page 86)

Kansas Oil Field News

By J. L. Dwyer

Greenwood County led the Kansas fields last week with the largest number of completions. This county probably has the largest number of operations in the State at present. The new production in Greenwood resulted in the State registering a good gain in output for the week.

The Graham Pool was second in the number of completions for Kansas, while in the Rainbow Bend Pool there was little news. The Waite-Phillips-Independent Oil & Gas Co.-Marland Oil Co. have two wells nearing the sands. The production of Rainbow Bend is holding about the same. There are about 10 drilling wells in this territory.

West of Rainbow, the Slick-Marland well, which was shot with 40 quarts, continues to produce about 40 bbls. daily.

The wildcats of the State showed very little development.

Greenwood County

The Mid-Kansas Oil Co. has completed No. 12 Ladd, C north half SE, Section 19-25-9. Sand was 2,368-2,445 feet. The well was shot with 100 quarts and is good for 140 bbls.

The Mid-Kansas Oil Co. has completed No. 13 Ladd, CSL NE NW SE, Section 19-25-9, for 125 bbls. after a shot of 160 quarts. Sand was 2,374-2,442 feet.

Polhamus and others have a rig on the ground for No. 1-A Wiggins, SW cor. SE SE, Section 27-24-9.

Roth & Faurot are building the rig for No. 5 Burkett, CWL SE NW, Section 12-25-8. The Phillips Petroleum Co. is spudding No. 6 Hoover, CSL SE SW NW, Section 3-25-9. Polhamus and others have a rig up for No. 6 Dilbert, CSL NW, Section 3-25-9.

The Mid-Kansas Oil Co. is spudding No. 14 Ladd, CNL NW SE, Section 19-25-9. The Mid-Kansas Oil Co. has built the rig for No. 15 Ladd, CNL SE, Section 19-25-9. The Mid-Kansas Oil Co.'s No. 5 Hoffman, CSL SE NW SW, Section 30-25-9, topped sand at 2,423 feet, had a show of oil at 2,426 feet, and is drilling ahead.

The Great Southern Oil Co.'s No. 23 Hull, CSW SW, Section 2-26-8, is completed for 60 bbls. after a 50-quart shot in sand at 2,362-2,404 feet.

The Phillips Petroleum Co. has completed No. 3 Edwards, NW cor. NE NE, Section 7-23-11, for a 25-bbl. well after a shot of 100 quarts in sand at 1,987-2,018 feet.

The Franklin Oil Co.'s No. 1 Johnson, NE cor. SE SW, Section 15-24-12, is drilling at 600 feet.

Davis and others have a rig on the ground for No. 3, SW cor. SE, Section 12-22-10.

The Mid-Kansas Oil Co. has completed No. 20 Allen, NW cor. NE SE, Section 23-23-10. Sand was 2,070-2,130 feet, and the well made 150 bbls. after a 160-quart shot.

The Mission Oil Co. and others have completed No. 46 Thrall, C south half SE, Section 29-23-10, for a 60-bbl. well after a shot of 150 quarts in sand at 2,272-2,357 feet. The Mission Oil Co. has completed No. 48 Thrall, CNL NE SE, Section 29-23-10, for 40 bbls. after a 110-quart shot in sand at 2,345-2,405 feet. Roth and others have a rig on the ground for No. 52 Thrall, C NE SE, Section 29-23-10. The Mission Oil Co. and others are rigging up for No. 53 Thrall, C SW SE, Section 29-23-10.

Fisher and others have completed No. 1, SE cor. SW NW, Section 12-22-11. Sand was at 1,792-1,830 feet, and the well was shot with 160 quarts and is swabbing 225 bbls. of oil and 150 bbls. of water. Davis-Hazlett and others' No. 3, NE cor. NW SW, Section 7-22-11, is drilling at 1,180 feet. Fisher and others have a rig on the ground for No. 2, SW cor. NW, Section 12-22-11. Fisher and others are moving out the rig for No. 3, SW cor. SE NW, Section 12-22-11. The Empire Gas & Fuel Co.'s No. 4 Hutchens, NE cor. NW NE, Section 14-22-11, is drilling at 665 feet. The Empire Gas & Fuel Co. has a rig on the ground for No. 1 Cravette, NW cor. NE NE, Section 14-22-11.

Milligan and others' No. 6 Bersie, NE cor. SW SE, Section 22-22-11, is drilling at 550 feet. Fisher and others' No. 2 Richards, SW cor. NE SE, Section 22-22-11, is drilling at 350 feet. The Phillips Petroleum Co.'s No. 8 Clark, CWL

(Continued on Page 104)

We Are Known by the Companies We Represent

Axelson PRODUCTS

OXY-ACETYLENE THE Carbic SYSTEM APPARATUS

"Camel Hair" Belting & "Camel Hair" Belt Clamps

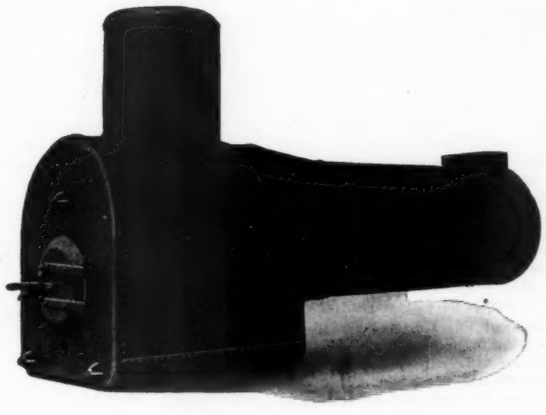
DONOVAN —BOILERS—

DREADNAUGHT ROTARY EQUIPMENT

FRICK-REID Light Plants—Rubber Belting

J&L CASING·TUBING·LINE PIPE

JOSEPH REID GAS ENGINE CO.



JOHNS-MANVILLE —PACKINGS—

NATIONAL TRANSIT PUMP AND MACHINE CO.

RATIGAN PUMPING SPECIALTIES

ROEBLING WIRE LINES

~~STANDARD~~ Seamless Casing, Drill Pipe and Tubing

WARREN STEAM ENGINES

WHITLOCK GUARANTEED CORDAGE

DONOVAN BOILERS are made in both code and non-code types. The Frick-Reid Store in your field will sell you the Donovan Boiler which meets all the legal requirements of the State in which you propose to use it.

Volumes could be written about the Donovan A. S. M. E. Code Boiler. It has many striking advantages, as for instance the size and location of the dome, to insure the maximum supply of dry steam at all times. A description of its special features is contained in the Donovan Catalog No. 2, sent anywhere on request.

The same sterling materials and the same fine workmanship go into every Donovan Boiler, and every one is tested in the same way before leaving the factory, whether it be code or non-code. There is this chief difference: in the non-code type the longitudinal seams of the dome, the taper course and the shell are lapriveted rather than butt-strapped.

There are many reasons why your next boiler should be a Donovan. Investigate.

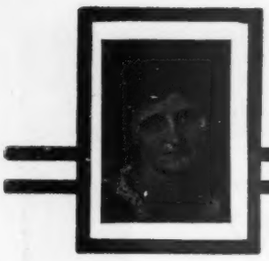
Frick-Reid Supply Co.

Tulsa, Okla. . . . . Pittsburgh, Pa.

West of the Mississippi—Stores Everywhere

East of the Mississippi—The Frick & Lindsay Co.

Oil Country Equipment—the Most Human Organization in America



North Louisiana-Arkansas

By M. L. Vaughn

No slackening of activity in deep sand development of Smackover, and additional storage being rushed. Increase of 78,300 bbls. a day in Arkansas due almost entirely to deep sand. One well, flowing 1,000 to 1,500 bbls. daily for two months, goes dead and resumes next day at rate of 20,000 bbls.

SHREVEPORT, La., April 27.—Despite the general slashing of prices in the Smackover Field, due to the production of more oil from the deep sand wells than the pipe lines can take care of, the output of the field continues to mount and there is seemingly no let up in the driling activity in this territory. Pipe lines are running to full capacity and additional storage is being provided as rapidly as possible. The Standard Oil Co. has eliminated the 60-cent price posted on Smackover heavy applying to oil for shipment and is paying the one price only of 40 cents for all heavy oil from the Smackover Field.

The surplus of heavy oil from the Smackover Field has reacted on other heavy oil territories and a cut of 25 cents a barrel was made Thursday, April 23, in the price of crude from the shallow sand district at Bellevue, Bossier Parish, bringing the present price down to $1.50 a barrel.

Varying view points are influencing producers in the Smackover territory in two directly opposite directions. Some are rushing their wells to completion and forcing them to produce every barrel possible in order to get out the oil ahead of their neighbors, and others are planning to store their oil and hold it for the higher prices which they believe are bound to return when the flush production from the deep sand subsides.

It is difficult to estimate the actual production from the deep sand development at present, as many individual operators are letting their wells flow into open storage rather than pinch them in to such an extent as to risk their going to salt water. In spite of all precautions, however, many wells have gone to salt water, the cause for which has not been determined. In some cases, the wells have undoubtedly been drilled too far into the sand and in others either the casing has been defective or the wells have come in unexpectedly without any casing at all being set. In other cases, some of the big wells have sanded up and stopped flowing, only to come back a few days later with a bigger production than ever. There seems but little doubt that the salt water is closely underlying the producing sand and it is probable that with the strong gas pressure in some of the wells they blow themselves into salt water.

Increase in Production

An increase of 78,300 bbls. a day in production from the Arkansas fields was due almost entirely to the deep sand development in Smackover, the average daily production of heavy oil amounting to 284,820 bbls. compared with from 70,000 to 80,000 a few weeks ago before the deep sand was discovered. Louisiana production remains practically the same, the daily average amounting to 50,772 bbls. Total production from the Arkansas and Louisiana fields during the past week averaged 378,922 bbls. a day, distributed as follows:

Arkansas	
Smackover heavy	284,820
Smackover light	30,530
El Dorado	2,285
Nevada County	1,610
Stephens	1,905
Total	328,150
Louisiana	
Bellevue	3,562
Caddo light	9,010
Caddo heavy	2,210
Cotton Valley	10,135
De Soto and Red River	4,210
Elm Grove	610
Haynesville	14,110
Homer	6,925
Total	50,772
Total both fields	378,922
Increase	78,061

Pipe Line and Storage

It has been announced by the Standard Pipe Line Co. that a new trunk line will be built from the Smackover Field to some point on the Mississippi River to relieve conditions in this territory which have resulted from the phenomenal production from the new deep sand development. The exact size of the line and the point to which it will be laid have not yet been decided, but it will be either 8 or 10-inch, approximately 100 miles in length, and will have a capacity of between 15,000 and 20,000 bbls. a day. Work on the line is to be started at once and it will be rushed to completion as rapidly as possible, as an emergency measure, the estimated expenditure to run well in excess of $1,000,000.

The Standard Oil Co. has 60 teams busy excavating for a 300,000-bbl. earthen storage pit to take care of the surplus oil from the Smackover Field. This will be the largest storage pit in the field with the exception of the Standard's 450,000-bbl. pit adjoining.

The Louisiana Oil Refining Corp. has begun the construction of two additional units to its cracking plant in Bossier City, which will increase the capacity of the plant from 2,500 to 5,000 bbls. It is expected the plant will be completed within 90 days.

Among the developments of interest in the deep sand territory at Smackover is the performance of No. 3 Umstead, drilled by George & Jones, and one of the first wells in the deep sand. This well had been flowing for two months and was making between 1,000 and 1,500 bbls. when it suddenly went dead on the night of April 23. The next day, the well came back in again, flowing at the rate of 20,000 bbls. a day.

Completions

Union County, Arkansas

Even with wells pinched in to less than one-half of their actual capacity, new productions from the deep sand area in the Smackover Field amounted to 62,400 bbls. during the past week. There were 23 wells completed in the deep sand, all producers save one, which was pronounced a failure by the Roxana Petroleum Corp. at 2,424 feet.

The best well of the week was completed by the Federal Petroleum Co., Lawton A-7, in Section 10-16-15, flowing 13,000 bbls. a day at 2,441 feet. Another big well was completed by the Imperial Oil Co., its No. 6 Murphy, Section 9-16-15, making 10,000 bbls. at 2,457 feet.

The Crusader Oil Producing Co.'s No. 5 Graves, Section 3-16-15, is pumping 400 bbls. in 31 feet of sand at 2,399 feet.

W. H. Gilliland's Hodges A-2, Section 8-16-16, is pumping 125 bbls. at 2,260 feet.

Gulf Refining Co.'s No. 3 Hallow, Section 6-16-16, is pumping 35 bbls. at 2,261 feet.

The Humble Oil & Refining Co.'s No. 7 Pate, Section 10-16-15, is flowing 3,000 bbls. at 2,386 feet.

The Lion Oil & Refining Co.'s No. 3 D. Murphy, Section 8-16-15, is flowing 2,000 bbls. at 2,505 feet.

The Natural Gas & Petroleum Co. completed a 30,000,000-foot gas well at 2,335 feet in No. 5 Bilyew, Section 9-16-15, and its J. Murphy F-2 in the same section is flowing 1,000 bbls. of fluid, 70 per cent salt water, at 2,994 feet.

The Sunny Jim Oil Co. completed No. 1 Flenniken, Section 9-16-15, pumping 30 bbls. at 2,126 feet.

Nye Wilson completed No. 5 Hays, Section 4-16-15, making 10,000,000 feet of gas with 1,000 bbls. of fluid of which 15 per cent is salt water and b. s.

Ouachita County

New production in the Ouachita County area amounted to 13,410 bbls., most of it obtained from the east end of the field which extends down into the deep sand territory.

George & Jones completed No. 4 Umsted, Section 4-16-15, flowing 1,500 bbls. at 2,369 feet.

The Gulf Refining Co.'s No. 13 Hardy-Murphy, Section 4-16-15, is flowing 5,000 bbls. at 2,362 feet. No. 1 R. Bennet, Section 33-15-15, was junked and abandoned at 1,995 feet, and No. 3 J. Goodwin, in Section 5-16-15, at 2,341 feet.

The Houston Oil Co. completed No. 6 Hinton, Section 5-16-15, flowing 500 bbls. at 2,382 feet, 65 per cent salt water.

The Humble Oil & Refining Co.'s No. 5 Flannigan, Section 6-16-15, is flowing 2,500 bbls. at 2,362 feet, and No. 6 Umsted, Section 5-16-15, is flowing 1,200 bbls at 2,394 feet.

Hunt and others completed Halton B-7, Section 25-15-17, pumping 40 bbls. at 2,387 feet.

The Standard Oil Co.'s No. 13 Umsted, Section 30-15-15, made 20,000,000 feet of gas with a spray of oil and salt water at 2,350 feet.

The Texas Co. completed No. 4 Neeley, Section 27-15-16, pumping 100 bbls. at 2,052 feet.

The Unity Petroleum Co.'s No. 3 Berry, Section 33-15-16, is pumping 70 bbls. at 1,999 feet.

The Woodley Petroleum Co. completed No. 4 Umsted, Section 4-16-15, flowing 2,500 bbls. at 2,358 feet.

Cotton Valley

Only one completion was made in the Cotton Valley district during the week, the Ohio Oil Co. getting a 240-bbl. pumper at 2,538 feet in No. 20 Bodcau, Section 15-21-10.

Bellevue Field

The Humble Oil & Refining Co. completed No. 5 Bliss & Wetherbee, Section 14-19-11, pumping 12 bbls. at 376 feet.

G. W. Wetherbee completed Bliss & Wetherbee F-7, Section 23-19-11, making 5,000,000 feet of gas with a show of oil and salt water, at 387 feet.

Caddo Parish

The Dixie Oil Co. completed No. 66 Robertshaw, Section 13-21-15, pumping 10 bbls. at 1,698 feet.

D. C. Richardson got salt water at 1,147 feet in No. 1 Williamson, Section 1-18-15, 10 miles northwest of Shreveport, and the test was abandoned.

The Tholl Oil Co. completed No. 7 Houston I. & B. Co., Section 14-21-15, pumping 15 bbls. at 1,642 feet.

Union Parish

The Texas Co. completed No. 1 Jimmy, Section 9-20-4e, making 10,000,00 feet of gas at 2,130 feet.

Webster Parish

The Standard Oil Co. completed No. 1 Maynor, Section 34-23-10, in the Springhill district, making 50,000,000 feet of gas at 2,634 feet.

Winn Parish

Galloway & Areendale have abandoned their test on the McCarty lease, Section 5-12-1w, at 2,313 feet.

Drew County, Arkansas

Rhodes and others tested dry at 3,021 feet in No. 2 Harrison, Section 5-13-8, and the test has been abandoned.

Nevada County

Ames and others completed No. 3 Womack, Section 10-14-21, pumping 40 bbls. at 1,202 feet.

Drilling Operations

Union County, Arkansas

Drilling activity in the Union County area of the Smackover Field in which is located most of the deep sand development, is fast reaching a state which bids fair to rival the boom days of this field and at the close of the week there were 204 drilling wells, 20 rigs and 48 derricks, a majority of which are in the comparatively limited deep sand territory. Operators are rushing the wells to completion, each in an effort to beat the other to it, and record time is being made in drilling progress.

Amerada Petroleum Corp. has two rigs running on the Flenniken land in Section 6-16-15, and three on the Lyell in Section 3-16-15. J. A. Alphin is drilling at 1,800 feet in No. 1 fee, Section 4-16-15.

Arkansas Fuel Oil Co. is drilling No. 5 Ferguson, Section 6-16-15, at 1,990 feet, No. 5 Alphin, Section 11-16-15, at 500 feet, rigging up to drill No. 1 Burton, Section 33-16-15, and derricks up for No. 11 Cullens, Section 3-19-15, and No. 4 Murphy, Section 8-16-16, with No. 3 Murphy coring at 2,622 feet and No. 1 Scott, Section 1-16-17, cleaning out at 2,285 feet.

Baggett and others have derrick up for No. 1 Houston, Section 12-16-16 and Bailey & Trimble set casing at 2,412 feet in No. 3 Lawton, Section 10-16-15.

R. A. Bristol is arranging to deepen No. 1 Parketson, Section 1-16-16, completed in 1922 as a 20,000,000-foot gas well at 1,996 feet; Broderick & Calvert are down 2,400 feet in a well they are deepening on the Murphy lease in Section 8-16-15, and Carrigan and others at 2,260 feet, drilling deeper in No. 1 Wingfield, Section 5-16-15.

J. W. Clark is down 250 feet in No. 6 Cook, Section 17-16-15, and has derrick up for No. 4 Palmer, Section 9-16-15; Clark & Melat are drilling at 2,450 feet in Wells A-2, Section 15-16-15, deepened from the 2,000-foot sand, and Coates & Sowell set casing at 2,450 feet in No. 2 Bilyew, Section 8-16-16.

Sam Cook has derrick up for No. 2 Murphy, Section 9-16-15; Crawford & Sebastian tested salt water at 2,348 feet in No. 5 Graves and have derrick up for No. 7 in Section 3-16-15, and Crusader Oil Producing Co. is drilling at 2,325 feet in No. 7 Graves, and at 1,950 feet in No. 5 Lyell, Section 3-16-15.

J. E. Crosbie is arranging to deepen Lawton A-1, Section 10-16-15, completed in 1923, flowing 2,500 bbls. at 2,063 feet. H. L. Dale is coring No. 2 LeCroy, Section 17-16-15, at 2,475 feet, and Chal Daniels is drilling at 2,100 feet in No. 3 Tatum, Section 7-16-15.

Eason and others have three rigs running on the Palmer lease in Section 9-16-15; Federal Petroleum Co. is arranging to deepen No. 5 Ballard, Section 10-16-15, drilling at 2,560 feet in No. 4 Childs, Section 8-16-16, and has eight rigs running on the Lawton lease in Section 10-16-15. Grimes & Jones set 6-inch at 2,116 feet in No. 4 Van Hook, Section 7-17-14.

Gulf Co. Rigs

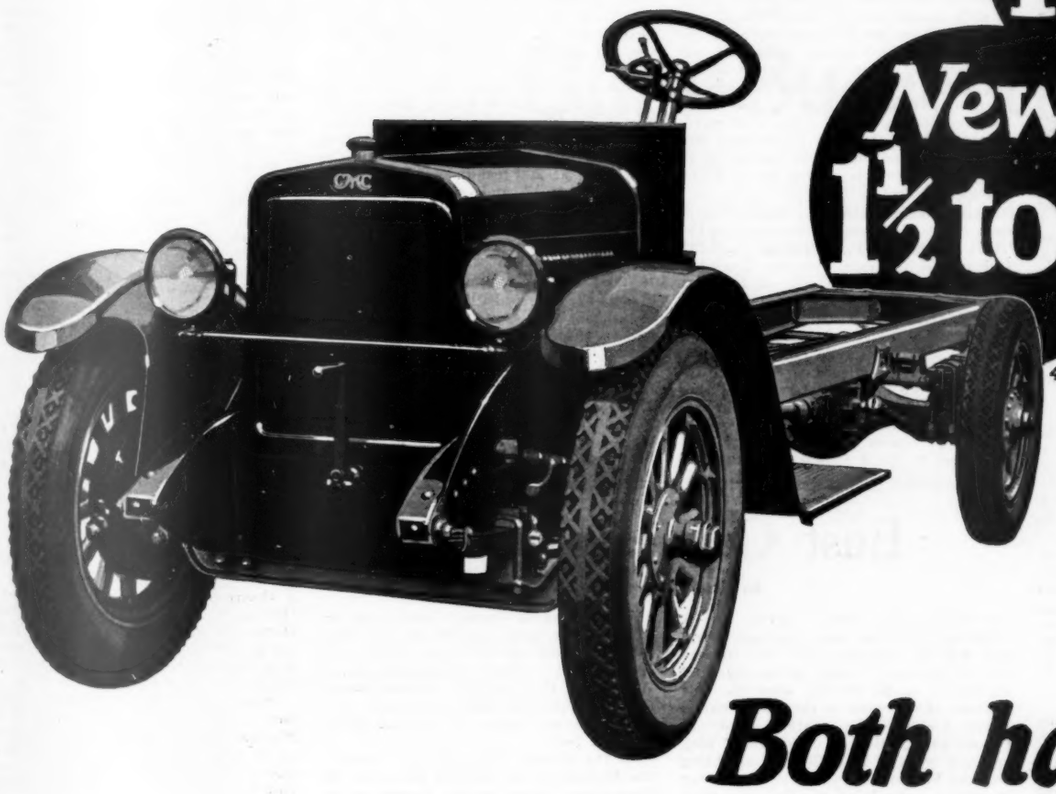
Gulf Refining Co. has 18 rigs running in deep sand area and is down 2,287 feet in its test, No. 31 Werner, Section 5-16-16; Hickman and others are rigging up

Two New Trucks *products of* General Motors

New 1 ton

New 1½ ton

4-Wheel Brakes



4-Wheel Brakes

Both have ~

1—New and more powerful engines with higher governed speed—full pressure lubrication.

2—Mechanical four-wheel service brakes and rugged emergency brake.

3—Complete electric starting, lighting and ignition systems—standard equipment.

4—New type of rear axle with sturdy pressed steel banjo housing. Differential quickly accessible through removal of rear plate only.

5—Greater strength and sturdier construction than other trucks of like capacities—without excess weight. Both represent years of experience in motor truck building.

The General Motors Truck Company now has on display at its distribution centers throughout the country two entirely new truck chassis. These new models are designed to meet the swifter pace of modern business and the safety necessitated by ever-increasing street traffic.

It will pay you to step in and inspect these new models today. If you cannot, write for descriptive literature immediately.

The General Motors Truck Company builds trucks and tractor trucks from 1 to 15 tons capacity.

GENERAL MOTORS TRUCK COMPANY
Division of General Motors Corporation
PONTIAC, MICHIGAN

GMC TRUCKS

General Motors Trucks

to drill No. 1 Graves in Section 3-16-15, and Higgins Oil & Fuel Co. is drilling at 509 feet in No. 1 McGraw, Section 6-16-15.

Hollyfield and others are drilling at 2,325 feet in No. 10 Giller, Section 11-16-15; Houston Oil Co. has derricks up for No. 6 and No. 7 Miller, Section 2-16-15, and drilling at 2,650 feet in No. 1 Parks, Section 8-16-16, and Humble Oil & Refining Co. has four rigs running on the Flenniken lease in Section 9-16-15, set 10-inch at 478 feet in Goodwin B-3, Section 3-16-15, and at 504 feet in No. 8 Pate, Section 10-16-15.

Imperial Oil & Gas Producing Co. rigging up to drill No. 5 on the Murphy lease. Abber Jones is deepening the Tatum well in Section 7-16-15 and E. M. Jones has three rigs running on the Cook lease in Section 16-16-15.

Keene & Woolf are still trying to kill the gas blowout in No. 1 J. S. Murphy, Section 9-16-15, and have two more wells drilling on the same lease; Laurel Oil & Gas Co., at 1,900 feet in No. 1 Houston, Section 12-16-15. Lion Oil & Refining Co. has three rigs running on the Lawton lease in Section 16-16-15, four on the Murphy land in section 7 and 8 and three on the Hardy-Murphy in Section 9-16-15.

Lyles and others are at 1,975 feet in No. 8 fee and have derrick up for No. 9, Section 2-16-15; Magnolia Petroleum Co. is drilling at 2,225 feet in No. 1 Chandler, Section 4-19-14, arranging to test at 2,647 feet in No. 1 Freeman, Section 7-16-16, drilling at 2,600 feet in No. 4 Powell, Section 19-16-15, and set casing at 2,215 feet in No. 2 Stout Lumber Co., Section 1-16-17.

Marr & Wood are rigging up to drill No. 2 Murphy in Section 17-16-15; the Matthews well on the Teele lease, Section 11-19-12, is flowing salt water with no show of oil at 2,662 feet; Mazda Oil Co. is drilling at 2,050 feet in Lawton B-2, Section 10-16-15, and at 1,315 feet in Lawton R-2, same section.

McCorkle and others are drilling at 1,900 feet in No. 1 Murphy, Section 8-16-15; R. J. McMurray is drilling at 1,050 feet in No. 1 Hill, Section 5-16-15, and Murdock and others are rigging up to drill Bilyew B-1, same section. O. G. Murphy is rigging up to drill No. 4 in Section 9-16-15.

Natural Gas Petroleum Co.

Natural Gas & Petroleum Co. has four rigs running on the Bilyew lease in Section 9-16-15, seven on Murphy land in sections 8, 9 and 17, and two on the Oran in Section 5-16-15. The Ohio Oil Co. is rigging up to drill No. 6 and No. 7 in Section 9-16-15 and has three rigs running on the Pate lease, in Section 10-16-15; Page and others are drilling at 125 feet in No. 6, Section 7-16-15.

Penguin Oil Co. is drilling at 360 feet in No. 3 Sanford, Section 6-16-15; Phillips Petroleum Co. is drilling at 1,010 feet in No. 5 Alphin, Section 11-16-15, and at 2,400 feet in No. 8 Giller, Section 10-16-15, and Pure Oil Co. has three wells drilling on the Bilyew lease in Section 8-16-15 and got salt water at 2,485 feet and arranging to plug back in No. 1 Dumas, Section 16-16-15.

A. H. Ramage set 12½-inch casing at 300 feet in No. 3 Cook, Section 16-16-15, and J. E. Crosbie, who has taken over part of the Ramage holdings, has three wells drilling on the Lawton lease in Section 10-16-15. Rogers and others are sidetracking junk at 2,200 feet in No. 1 LeCroy and drilling at 2,360 feet in No. 3, Section 17-16-15.

Roxana Petroleum Corp. has five rigs running on the Bilyew lease in Section 9-16-15, 10 on the Flenniken in sections 5- 8 and 10-16-15- and three on the Hardy Murphy in Section 9-16-15. Russell and others are rigging up to drill No. 1 Brown in Section 8-17-14; Shreveport Oil Corp. is drilling at 1,800 feet in Murphy B-1, and set 10-inch at 610 feet in B-2, Section 9-16-15, and Simms Oil Co. is drilling No. 1 and No. 6 Cook and rigging up to drill No. 8 and No. 9 in Section 16-16-15.

Standard Oil Co. has two wells nearing completion on the Alphin lease in Section 3-16-15, four drilling wells on the Hardy land with derricks up for nine more in sections 4, 9 and 10.

Staves and others are drilling at 2,350 feet in No. 1 Cook, Section 16-16-15; D. N. Stewart is drilling at 1,050 feet in No. 1 Murphy and has set casing at 2,470 feet in No. 2, Section 9-16-15, and Sun Oil Co. is deepening No. 1 Hatfield, Section 6-16-15, and has six rigs running on the Hays lease in Section 3-16-15.

D. N. Stewart is drilling at 1,050 feet in No. 1 Murphy and has set casing at 2,470 feet in No. 2, Section 9-15-15; Sun Oil Co. has three drilling wells and a rig on the Hays lease in Section 3-16-15, and Sure Oil Co. three wells nearing completion on Flenniken lease in Section 5-16-15.

Work of The Texas Co.

The Texas Co. tested salt water at 2,364 feet in No. 6 Alphin and set casing to drill deeper, set 10-inch in No. 7 and has derrick up for No. 8 in Section 3-16-15; three wells nearing completion on the Calloway lease in Section 4-16-15; one on the Graves with two derricks in Section 3-16-15 and four on the Hays lease in Section 4-16-15; No. 1 Howard, Section 7-16-16, is down 75 feet and No. 1 Langley, same section, is rigging up to drill, and derrick is up for No. 2 E. G. Murphy, in Section 14-16-15.

Thurman and others are rigging up to drill No. 1 Wingfield in Section 5-16-15; Tidal Osage Oil Co., drilling at 2,225 feet in No. 5 Vestal, Section 17-16-15; United Central Oil Corp., drilling at 2,235 feet in No. 2 Murphy, Section 8-16-15; United Central Oil Corp., drilling at 2,235 feet in No. 2 Murphy, Section 8-16-15, has three wells nearing completion on the Rogers lease in Section 3-16-15, derrick up for No. 2 Lawton, Section 10-16-15, and arranging to abandon No. 2 Milner, Section 10-16-15, at 2,008 feet. Ward and others have a fishing job at 2,560 feet in No. 1 Goodwin, Section 16-16-14, and Wetherbee and others are drilling at 1,300 feet in No. 1 McGraw, Section 7-16-16.

Ouachita County

Drilling activity in the Ouachita County area of the Smackover Field has not increased in the same proportion as that in Union County, on account of most of the Ouachita territory lying in the light oil district. The east end of the county runs down into the heavy oil territory and here there is the same rush of development to the deep sand as in Union County.

The Amerada Petroleum Corp.'s fifth well on the Calloway lease, Section 4-16-15, is nearing completion; Arkansas Fuel Oil Co. set casing for a shallow test in No. 4 Snyder and is drilling at 310 feet in No. 5, Section 34-15-15, and Bailey-Murray Oil Co. has derricks up for Rhoten B-1 and B-2 in Section 32-15-15.

H. E. Clarke set 6-inch at 2,260 feet in No. 2 Shirey, Section 36-15-17, and at 2,316 feet in No. 4 Smith, Section 26-15-17; Dashko and others are repairing rig at 2,075 feet in No. 2 Joyce, Section 34-15-15, and El Dorado Union Oil Co. is drilling at 200 feet in No. 5 LaGrone, Section 36-15-17, and set 6-inch at 2,352 feet in No. 2 Umsted, Section 4-16-15. Forest Oil Co. set 8¼-inch casing at 1,965 feet in No. 1 Arnold, Section 26-15-16, and 6-inch at 2,224 feet in Lewis B-2, Section 26-15-16.

Guy Freeling is bailing to test 24 feet of broken sand at 2,335 feet in No. 3 Gibson, Section 26-15-17; George & Jones set 4½-inch at 2,365 feet in No. 2 Umsted, Section 4-16-15; Gilliland Oil Co. tested salt water and plugged back to 2,281 feet in LaGrone S-6, Section 36-15-17, and tested salt water and is arranging to core at 2,594 feet in Myar S-5, Section 30-15-16. Gladys Belle Oil Co. is arranging to pump No. 1 Neely, Section 23-15-16.

Gray and others are arranging to pump No. 4 Myar and rigging up to drill No. 5 in Section 32-15-16; Gulf Refining Co. is rigging up to drill Goodwin A-6, Section 5-16-15, and Umsted A-8, Section 33-15-15. Hemphill and others are are down 100 feet in No. 1 Elliott Section 14-15-17; Hickory Oil Co. is arranging to deepen with cable tools, No. 2 Fincher, Section 32-15-16, and Home Refining Co. is swabbing to test 82 feet of broken formation at 2,402 feet in No. 1 Berg, Section 27-15-17.

The Houston Oil Co. tested salt water and is waiting orders at 2,404 feet in No. 10 B. T. Laney, Section 31-15-15; Howell and others tested salt water and recemented casing at 2,362 feet in No. 2 Williams, Section 3-16-15; Humble Oil & Refining Co. is rigging up to drill No. 1 Arnold, Section 26-15-16, drilling at 1,500 feet Berg B-3, Section 30-15-15, tested salt water with a show of oil at 2,387 feet in No. 6 Flannigan, Section 6-16-15, and has one well drilling and three locations on the Umsted lease in Section 5-16-15.

H. L. Hunt and others have derrick up for Halton D-1 in Section 21-15-17 and is rigging up to drill No. 1 Pace, same section, with Myatt A-3, Section 22-15-17, arranging to pump. Imperial Oil & Gas Producing Co. cemented casing at 2,376 feet in No. 6 McClannahan, Section 6-16-15; Invaders Oil Co. is arranging to pump No. 2 Hardin, Section 22-15-16 and is closed down at 1,500 feet repairing boiler in No. 5 Miller, Section 5-16-15.

W. R. Keever has set casing at 2,025 feet in No. 1 Neely, Section 27-15-16; the Louisiana Oil Refining Corp. is drilling at 2,265 feet in No. 1 Bland and at 2,205 feet in No. 2, Section 27-15-17; Leon and others have three rigs running on the Berg lease in Section 4-16-15, and Lion Oil & Refining Co. is drilling at 2,357 feet in No. 2 Hays, Section 4-16-15.

Magnolia Operations

Magnolia Petroleum Co. is arranging to pump No. 2 Bettie Clawson, Section 35-15-17, and arranging to deepen No. 1 J. Goodwin, Section 5-16-15, completed in 1923 as a 10,000,000-foot gas well with 15 barrels of oil. Marine Oil Co. is drilling at 1,950 feet in No. 4 Hays, Section 4-16-15 and has derricks up for No. 6 and No. 7 Umsted, Section 5-16-15.

Miles and othrs set casing at 1,923 feet in No. 2 Neely, Section 26-15-16; Natural Gas & Petroleum Co. is rigging up to drill Hill B-1 in Section 5-16-15 and Owenwood Oil Corp. is building derrick for No. 5 Snyder in Section 34-15-15. Peniguin Oil Co. is drilling at 2,325 feet in No. 1 Umsted and has derrick up for No. 2 in Section 4-16-15, and Pure Oil Co. is arranging to pump No. 2 Cunningham in Section 30-15 15.

Ramage and others set 10-inch casing at 58 feet in No. 4 Jeffus,, Section 25-15-17; J. D. Reynolds is drilling at 2,160 feet in No. 2 Berg, Section 27-15-17; Roxana Petroleum Corp. has two rigs running on the Synder lease in Section 34-15-15, and four on the Umsted in Section 4-16-15, and the Shreveport Oil Corp. has a fishing job at 1,950 feet in No. 3, Section 4-16-15.

Simms Oil Co. is arranging to pump Berg E-4, Section 30-15-15; Sinclair Oil Co. set 4½-inch casing at 2,270 feet in No. 1 Berry, Section 33-15-15, and Standard Oil Co. has set 6-inch at 2,345 feet in No. 3 R. Bennett, Section 33-15-15, drilling at 220 feet in No. 11 M. W. Hardy, at 800 feet in No. 13 and derrick up for No. 26, Section 5-16-15; coring at 2,370 feet in No. 2 George Powell, Section 34-15-15, had three wells nearing completion on the Umsted lease, Section 32-15-15, and one rigging up to drill.

Sure Oil Co. is drilling at 1,820 feet in No. 1 Hill, Section 5-16-15, and at 1,800 feet in No. 2 Snyder, Section 34-15-15; Sutton and others are arranging to pump No. 8 Hughes, Section 28-15-16; The Texas Co. has set 8¼-inch casing at 2,000 feet in No. 3 Neely, Section 27-15-16, arranging to pump No. 7 Reynolds, Section 23-15-17, and tested No. 5 Solomson, Section 32-15-16, getting salt water with a show of oil at 2,285 feet.

The Texas Pacific Coal & Oil Co. is drilling at 2,215 feet in No. 5 Laney, Sec-

(Continued on Page 88)

East Central Texas

By Staff Correspondent

CORSICANA, Tex., April 25.—A 1,000-bbl. well in the Wortham Field and further evidence that the Bazette area in Navarro County is no potential oil region to be feared, were the sole features of the week in the East Central Texas Fields. The shallow sands in Powell are getting a considerable play and new wells of 20 to 50 bbls. are being brought in with regularity. A number of wildcat tests along the Balcones fault were abandoned.

Myrin and others have abandoned their No. 1 Graffenreid, DeAguine survey, Falls County, at 2,708 feet. Hot sulphur water was found in sand at 2,185-90 feet, which was cased off. Fresh water was found at 2,700-08 feet and the operation was sold as a fresh water well. Edwin Falsey abandoned No. 1 Penny, Monchaca survey, at 2,025 feet.

In the Wortham Field

Farish, Watts & Collins' No. 7 Jackson, Wortham townsite, Wortham Field, Freestone County, started at 150 bbls. from sand at 2,944 to 3,007 feet. The Humble Oil & Refining Co.'s No. 13 Ella Dodd, Ritchie survey, made 300 bbls. a day from sand at 2,985 to 3,028 feet. No. 17 Ella Dodd bailed dry at 2,996 to 3,025 feet and was to have been drilled deeper. No. 18 Ella Dodd, Longbotham survey, started at 58 bbls. the first hour and made 1,000 bbls. the first 24 hours from sand at 2,986 to 3,026 feet. McKinney & Dubble's No. 1 Purifoy, Ritchie survey, tested salt water at 3,042 feet. Pipe was set at 3,000 feet. It was shut down for orders. The Quaker Oil Co.'s test on the J. T. Bays farm, Longbotham survey, was abandoned at 3,147 feet, in chalk. In the Limestone County end of the Wortham Field, the Pure Oil Co. completed No. 13 Boyd, in sand at 2,989 to 3,018 feet. It started at 40 bbls. No. 15 Boyd was a 150-bbl. intial producer at 3,005-24 feet.

Navarro County Operations

The Gulf Production Co.'s test on the Green farm, Simonton survey, Bazette district, Navarro County, was cored at 3,060-67 feet and 3,067-75 feet and was being cleaned out to make ready for another core. Elliott & Nicolle's No. 1 Westbrook, Horn survey, located several miles east of the Gulf company's test, cored a sandy shale at a total depth of 3,452 feet.

In the Powell Field, Navarro County, the Humble Oil & Refining Co.'s No. 32 Humphries, Smith survey, started at 40 bbls. from sand at 1,516-72 feet. Other completions were the Gulf Production Co.'s No. 7 R. Smith, Havens survey, sand at 1,580 to 1,650 feet, 28 bbls. George Kent's No. 1 G. H. Kent, Havens survey, sand at 1,570 to 1,640 feet, 20 bbls.; Humble Oil & Refining Co.'s No. 18-C Irvine, Taylor survey, sand at 1,553-88 feet, 15 bbls.; same company's No. 3 R. I. Kent survey, sand at 1,584 to 1,650 feet, 20 bbls.; Roxana Petroleum Corp.'s No. 1 Smith, Havens survey, sand at 1,640-43 feet, 40 bbls. No. 2 Smith, sand at 1,580 to 1,643 feet, 60 bbls.; Skelly Oil Co.'s No. 1 Bailey, Hahn survey, sand at 1,603-38 feet, 30 bbls.; Simms Oil Co.'s No. 1 W. N. Smith, Autrey survey, Navarro County, was abandoned at 3,047 feet.

The Gulf Production Co. has made a location for a test on the Hillburn farm, Hudson survey, Navarro County, and McNelley & La Suer have a derrick up for a test on the Harvard farm, Meador survey.

In Milam County

A number of old tests in Milam County, some of them long shut down, have been definitely abandoned. Lee Dodwell and others abandoned the location for No. 1 Forkell, Perry survey; Sinclair Oil & Gas Co.'s No. 1 Smith, Moore survey, was abandoned at 3,957 feet. F. C. Nelson's No. 1 Lattere, Acosta survey, was dry and abandoned at 3,000 feet; Beverly Oil Co.'s No. 2 Buer, Shields survey, abandoned at 1,410 feet; Mills Bennett's No. 1 Bremond, Ciento survey, abandoned at 1,310 feet. The Magnolia Petroleum Co. was preparing to start drilling on No. 1 Kime, Carson survey.

Other Plugs Had Failed- Ours Succeeded

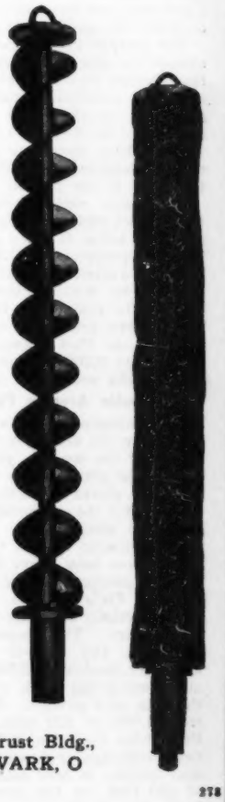
A GUIBERSON Spiral Bottom Water Plug secured a complete and satisfactory shut-off in a well in the Hominy Field, recently, after two plugs of other types had been tried and had failed to shut off the water. Study of this illustration will show why:

SPIRALS EXPAND AND BITE INTO WALLS. THE ONLY PLUG THAT TAKES A SCREW-LIKE HOLD.

OAKUM IS COMPRESSED POWERFULLY AND UNIFORMLY BETWEEN SPIRALS.

CORE STEM DESCENDS BETWEEN SLIPS WHICH PERMIT IT TO PASS DOWNWARD ONLY AND LOCK PLUG IN COMPRESSED POSITION.

Fully Patented



"Better Be Safe Than Sorry"

THE GUIBERSON CORPORATION
Box 1106, Dallas, Texas

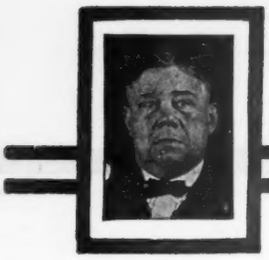
CALIFORNIA BRANCH:
1506 Santa Fe Ave., Los Angeles

402 W. First St.
TULSA

318 First Nat'l Bank Bldg.,
HOUSTON

506 Trust Bldg.,
NEWARK, O

278



Gulf Coast Oil Operations

By P. L. McGreal

Production of Coastal fields showed decrease during past week with Hull Pool showing largest loss. Humble brings back well in that pool late in week which flowed 5,000 bbls. 12 per cent water. Good well completed in South Liberty Pool. Operations in Orange Pool curtailed because of low prices.

HOUSTON, Tex., April 27.—The estimated daily average gross production in the Gulf Coast and southwest Texas pools is off 2,026 bbls. for the seven-day period ending April 25. A decline is noted in the Hull Pool, although just as the week closed the Humble Oil & Refining Co. got back No. 1 Merchant, flowing 5,000 bbls., 12 per cent water.

Work is slackening in the Goose Creek district, pretty much all the territory being drilled up, except on the east side of the Smith tract on which the Humble Oil & Refining Co. is operating. It is in the deep sand area. The Gulf Co. has holdings along the bay shore, which may be extended farther out into the water some time in the future, but it is a deep sand proposition and expensive to drill. The few rigs now running are over old holes mostly, working them over.

The same statement applies to the Humble Pool, 20 miles north of Houston, a one-time prolific district, with production at 600 feet; from a cap rock around 1,100 feet, and from deep sands at 2,800 to 3,000 feet on the east side.

The Orange Pool is now a deep sand proposition almost entirely and any further declines in credit balance prices will result in curtailment there. The wells developed in the 3,300 and 3,600-foot sands, and as deep as 4,500 feet do not hold up long enough to justify any extensive deep sand drilling campaign in that pool at the present prices.

Thirty-one wells were completed in the Coastal region during the week, nine of these being failures and abandoned. The new production is 7,352 bbls. ommiting the worked over well in the Hull Pool. The South Liberty Pool shows nine wells completed, three being dry and the new production totals 4,000 bbls. The Orange Pool shows six well completed with 2,762 bbls. new output. Four of the wells were work overs.

Daily Average Production

The estimated daily average gross production in the Gulf Coast and southwest fields for the week is placed at 147,313 bbls. The estimate for the Gulf Coast alone is placed at 101,838 bbls. The estimate for the southwest fields is placed at 45,495 bbls.

The estimate for the Coastal territory would have been lower had it not been for the recovery of the Humble Oil & Refining Co.'s well in the Hull Pool, which partially overcame declines in other wells there. The Republic Production Co.'s No. 112 Dolbear there, reported last week as flowing 2,500 bbls. initially, quit during the week and is going on the jack as a pumper. No. 111 dropped from 1,000 to 450 bbls. The Houston Production Co.'s No. 8 Taylor, reported two weeks ago as flowing 3,800 bbls. initial output, is now making an average of 450 bbls. on the pump. The Texas Co.'s No. 1 Hannah, completed some time ago, is on air flowing 2,200 bbls., and its No. 2 Hannah, initially a 3,500-bbl. well, is now making 200 bbls.

The weekly estimate for each district, ending April 25, is as follows:

Batson	1,505
Blue Ridge	1,570
Barber Hill	110
Big Creek	575
Dayton	38
Damon Mound	1,150
Edgerly (La.)	915
Goose Creek	9,120
Humble	4,800
Hull	27,970
Jennings (La.)	1,020
Markham	100
Orange	13,847
Spindletop	1,255
Saratoga	1,670
Sour Lake	4,260
South Liberty	12,878
Vinton (La.)	5,878
Pierce Junction	635
West Columbia	12,100
Welsh-Anse La Bute	80
Lockport (La.)	222
Miscellaneous	140
Total	101,838
Southwest Fields—	
Luling	29,435
Laredo districts	4,155
Somerset	2,600
Calliham	290
Rockdale-Minerva	415
Jim Hogg County	5,100
Lockhart	3,500
Total	45,495
Grand total for week	147,313
Grand total last week	149,339
Decrease	2,026

Completions and Operations

In the South Liberty Pool the Vacuum Oil Co.'s No. 7 Barrett is flowing 1,200 bbls. initial at 3,515 feet. The Hofer Oil Co.'s No. 2 Pickett is flowing 300 bbls. at 3,530 feet.

The Humble Oil & Refining Co.'s No. 2-A Chambers in the South Liberty Pool is in, flowing 1,200 bbls. at 3,650 feet. The Gulf Co.'s No. 1 Williams there is flowing 500 bbls. at 3,600 feet, and its No. 2 Schade, 175 bbls. at 3,650 feet.

The Monarch Oil & Refining Co.'s (Peer Oil Co.) No. 4 Harrison is flowing 700 bbls. The Oxford-Navarro Oil Co.'s joint No. 4 Harrison came in flowing 800 bbls. at 3,520 feet. Abercrombie and others' No. 2 Harrison is rated at 500 bbls., 5 per cent sediment and water. The Humble Oil & Refining Co. abandoned No. 2-B Pickett in salt at 1,412 feet. F. M. Long abandoned No. 2 Andrews. These are all around the original group of wells on the northeast side of the dome.

On the Schade acreage, which is to the south and between the original production and the Van de Venter land, the Gulf Production Co.'s No. 3 Schade is a 250-bbl. well, 10 per cent water. The Gulf Co. got a well in No. 1 Van de Venter last month, which extended the pool one-half mile south. No offsets are needed on that acreage and the company has made no further efforts to develop production. The Gulf Co. abandoned No. 1 Orgain in salt water at 3,700 feet. No. 3 Schade is 600 feet north of No. 1 Van de Venter, and No. 2 Hamman, 200 feet north of the discovery well, is good for 250 bbls., 10 per cent water, at 3,450 feet. The Sun Oil Co.'s No. 2 Schade is bailing at 3,550 feet. The Humble Oil & Refining Co.'s No. 1 Schade shows oil at 3,660 feet. The same company is bailing No. 2 Harrison-Pickett at 3,590 feet. The Gulf Production Co.'s No. 1 Williams is bailing at 3,600 feet.

Drilling Operations

In the South Liberty Pool, Mills Bennett's No. 9 Pickett is drilling around 2,550; No. 10, around 400 feet; No. 11, around 1,600 feet; No. 2 Revierre- Brown, around 3,590 feet; the Humble Oil & Refining Co.'s No. 2 Pickett "A," around 3,350 feet; No. 5 Pickett "B" is a derrick; No. 4, is drilling around 1,850 feet; No. 3, around 3,350 feet; No. 1 Pickett "C," around 3,550 feet; No. 5, around 1,100 feet; No. 2, around 3,550 feet; No. 3, around 3,540 feet; No. 4, around 550 feet; No. 1 Hanson "A," around 3,575 feet; No. 4 Chambers "A," around 1,600 feet; No. 2, around 3,560 feet; No. 3, around 1,650 feet; No. 1 Chambers "B," around 3,540 feet; No. 2, around 3,460 feet; No. 1 Mitchell, around 2,400 feet; No. 2 Schade, around 3,450 feet; No. 5, around 650 feet; No. 3 is a derrick; No. 4 is drilling around 1,700 feet; the Vacuum Oil Co.'s No. 6 Barrett, around 3,375 feet; No. 8 is a derrick; No. 9 is drilling around 1,200 feet; the Bashara Oil Co.'s No. 5 Pickett is a derrick. Nos. 3 and 4 are rigging up. The Peer Oil Corp.'s No. 2 Harrison is drilling around 2,075 feet; No. 5, around 2,260 feet; No. 6, around 2,750 feet. The Hoffer Oil Co.'s No. 3 Pickett is standing.

The Sun Oil Co.'s No. 9 Schade is drilling around 2,050 feet; No. 3 is waiting for cemented casing to set; No. 4 is drilling around 3,450 feet; No. 5, around 3,100 feet; No. 6, around 2,400 feet; No. 7, around 3,300 feet; No. 8 is a derrick; No. 11 is drilling around 250 feet. Mrs. Neils Esperson's No. 1 Baldwin is drilling around 3,590 feet. The Oxford-Navarro Oil Co.'s No. 5 Harrison is drilling around 3,550 feet; No. 6, around 3,600 feet; No. 7, around 3,100 feet; No. 8, around 3,600 feet; Nos. 9 and 10 are rigging up. The Texas Co.'s No. 2 Staiti is drilling around 2,750 feet; Nos. 3 and 4 are derricks; No. 1 Simms fee is drilling around 2,900 feet; No. 2, around 2,250 feet; No. 3, around 1,500 feet; No. 4, around 1,100 feet.

The Sinclair Oil & Gas Co.'s No. 1 Condit fee is drilling around 2,950 feet. The Gulf Production Co.'s No. 2 Williams is drilling around 3,600 feet; No. 3 is a derrick; No. 4, around 3,500 feet; No. 2 Orgains, around 2,800 feet; No. 3 is a derrick; No. 1 O. A. Schade is drilling around 3,610 feet; No. 4 around 3,250 feet; No. 5, around 2,700 feet; No. 6, around 1,700 feet; No. 8 is a derrick. No. 1 Antoine, around 2,800 feet; No. 1 Deussen fee "A," around 2,790 feet; No. 1 Richardson, around 1,100 feet; No. 2, around 400 feet; Nos. 3 and 4 are rigging up.

Negroes constitute a portion of the royalty owners in the South Liberty Pool. They are the descendants of slaves owned by French planters in South Louisiana, who migrated to that part of Texas after the Civil War and acquired titles to lands in the Trinity River bottoms, raising cotton and corn.

Orange Pool

In the deep sands in the Orange Pool, the Gulf Production Co. has a 2,000-bbl. well initial flow at 4,500 feet in No. 2 Granger. No. 1 Mose Granger, belonging to the same company, came in flowing 700 bbls. at 4,450 feet. Its No. 1 Winifree, a work over, is pumping 30 bbls. at 3,325 feet. The Gulf Coast Oil Co.'s No. 1 Leon, another work over, is making 7 bbls. at 3,375 feet, which will scarcely pay for lifting the oil. The Sinclair Oil & Gas Co.'s No. 4 Granger is pumping 10 bbls. at 3,300 feet. The Brownie Babbittee Oil Co.'s No. 4 McLean is pumping 15 bbls. at 2,850 feet, after testing dry at 4,800 feet and then sidetracking.

The Ryeade Oil Corp.'s No. 5 State "A" is drilling around 4,350 feet. The Tillery Oil Co.'s No. 1 State is shut down at 4,250 feet. The Humble Oil & Refining Co.'s No. 15 Chesson "A" is rigging up to work over; No. 21 "B" is drilling around 5,335 feet; No. 11 Winifree, around 4,750 feet. The Orange Petroleum Co.'s No. 9 Chesson is drilling around 1,750 feet. The Mutual Oil Co.'s No. 4 Chesson is fishing at 4,780 feet; No. 12 is rigging up to work over; No. 14 is drilling around 2,300 feet. The Sun Oil Co.'s No. 3 Brown is drilling around 4,325 feet; No. 6 Gunstream, around 4,725 feet. The Supreme Oil Co.'s No. 1 Jackson is drilling deeper, around 3,950 feet. The Edgerly Petroleum Co.'s No. 5 Carbello is rigging up to work over. The Atlantic Oil Corp.'s No. 1 Hager is rigging up to work over. The Sinclair Oil & Gas Co.'s No. 1 Granger is rigging up to work over. The Monarch's No. 5 Galliere is drilling around 3,200 feet. The Gulf Production Co. is deepening No. 14 Hager fee on the east side of Cow Bayou, with locations for No. 9 Peveto and No. 3 Hammam-Consolidated. The latter is in the south end of the pool, where two deep holes have already been drilled.

Goose Creek

In the Goose Creek Pool, the Humble Oil & Refining Co.'s No. 61 Smith is a salt water hole at 4,150 feet and will be drilled deeper. No. 62 Smith is showing oil at 2,000 feet. The Southern Exploration Co.'s No. 11 Wright is bailing at 1,900 feet. The Gulf Production Co.'s No. 32 State land is pumping 100 bbls. at 2,700 feet, and its No. 24 Beaumont is bailing at 2,740 feet.

The Humble Co. is setting casing at 3,332 feet in No. 1 on Hog Island, off the mainland. The Gulf Production Co.'s mouth of the creek, is drilling at 3,655 feet, and No. 33 State land in the bay is rigging up. No. 16-A Wright is deepening. No. 9 Chapman-Bryan, near the mouth of the creek, is drilling at 3,655 feet. The Gulf Coast Oil Co.'s No. 6 Galliard is working over. The Sun Oil Co.'s No. 3 Wright is sidetracking at 2,545 feet. That company is removing one of its treating plants from Goose Creek to be installed in the South Liberty Pool. The Norman Bruce Petroleum Co.'s No. 1 Scorrgea, northwest of production, is sidetracking at 2,855 feet.

Hull Pool

In the Hull Pool, the Gulf Production Co. worked over No. 40 Phoenix into a 250-bbl. well at 3,240 feet. Its No. 15 Scarborough on the north side of the hill, is pumping 50 bbls. at 3,550 feet. The Eagle Point Oil Co. abandoned No. 3 Wheelock after bailing dry at 675 feet.

The Republic Production-Houston Oil Co.'s joint No. 102 Dolbear is sidetracking; No. 113 is around 2,500 feet; No. 114, below 2,600 feet; No. 115, at 2,365 feet; No. 116, at 1,155 feet, with a location for No. 117. The Gulf Production Co.'s No. 49 Phoenix is at 3,270 feet; No. 50, below 4,145 feet, and No. 51 at 2,655 feet. No. 20 Morris-Phillips is at 3,500 feet. No. 13 Baldwin is drilling at 2,835 feet. The Humble Oil & Refining Co.'s No. 7 Guidry is deepening at 3,155 feet. No 2 Merchant is at 4,180 feet. No. 2-B Hannah is below 2,980 feet. The Texas Co.'s No. 3 Hannah is drilling at 2,655 feet, with a derrick standing for No. 4 The Texas-Vacuum's joint No. 4 Hannah is at 2,800 feet with No. 5 fishing. The Yount-Lee Co.'s No. 5 Stengler is fishing. No. 11 Merchant is at 2,435 feet, and No. 12 at 2,745 feet. The Mecom Oil Co.'s No. 8 fee Mecom is at 3,100 feet.

Hardin County Pools

In the Saratoga Pool, the Paggi Oil Co.'s No. 14 is pumping 15 bbls. at 1,060 feet. The same company is rigging Nos. 3 Duke and 2 Booker. The Weldon Oil Co.'s No. 5 Bradley is at 1,075 feet.

In the new drilling area on the north side, the Rio Bravo Oil Co.'s No. 1 Fountain is drilling at 2,780 feet. No. 2 Fountain is at 2,235 feet. The Yount Lee Co.'s No. 1 Parrish is at 3,010 feet. The Gulf Production Co.'s No. 1 Wells is at 2,340 feet.

In the Sour Lake Pool, the Gulf Production Co. abandoned No. 27 Tarver-Hardin in salt water at 2,375 feet. J. S. Jackson's No. 13 Carpenter was aban-

(Continued on Page 90)

100 *H. P. Unit "Wildcatting" Near Hardin, Texas*

Cutting Power Costs in Half

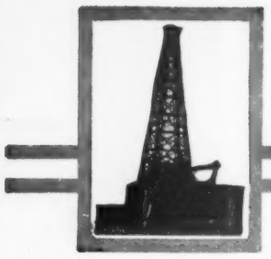
"Wildcatting" out of Hardin, Texas, H. S. McGary is using a pair of Waukesha "Ricardo Head" Power Units; one is driving the rotary rig, another the mud hogs. These units, which cost less, are easily installed, and even run on "waste gas," are but two of hundreds which have been cutting power costs in the oil fields during the past seven years. When the drilling is finished, these units are immediately available for all other power requirements around the oil well; or are easily portable to new operations. They open new fields for "wildcatting."

Write for "Oil Field Bulletin" giving full information

WAUKESHA MOTOR COMPANY
Waukesha, Wisconsin

Houston Tulsa Los Angeles Kansas City New York City

Exclusive Builders of Heavy Duty Gasoline Engines for Nearly Twenty Years



Southwest Texas Fields

By Staff Correspondent

First dry holes drilled in Lockhart Field since discovery well was completed. Gulf Production Co. gets 1,000-bbl. well. United North & South Oil Co. deepening its No. 1 F. A. Gomillion after failing to get production at 1,460 feet. Lack of water held up operations during past week.

SAN ANTONIO, Tex., April 27.—The Lockhart Field in Caldwell County, which has been attracting most of the attention in southwest Texas since the bringing in of the Lefevre & Storey discovery well on March 9, got its first dry hole the past week. Mike Danley on the Mrs. A. H. Cardwell tract, a little less than a mile to the southeast of the discovery well and which got the top of the pay at 1,320 feet, failed to get enough to make a commercial well and has been plugged and abandoned. And the United North & South Oil Co.'s No. 1 F. A. Gomillion, a little less than a mile northeast of the discovery well got only a few feet of the sand and with no production. It went through the Serpentine (the producing formation) and continued drilling until a wind storm blew the derrick down last Tuesday. It is only a quarter of a mile from the Cranfil & Reynolds-Marland's No. 1 F. A. Gomillion, that came in Friday, April 10, making over 2,000 bbls. a day. The company has started to deepen the well from 1,460 feet.

The Gulf Production Co.'s No. 3 Beaty in the Lockhart Field blew in late in the week at 1,247 feet and is flowing 1,000 bbls.

The situation at Lockhart today makes the field look very much as though the first impressions and fears of old timers in the business that the field was likely to repeat the history of Thrall in Williamson County were well founded. Thrall production came from the Serpentine. There were some big producers that rather quickly subsided and the field was somewhat erratic with small producers along side of larger ones. The Thrall Field, too, was small. If the work of the past week materializes in proof the Lockhart Field may not cover more than 320 acres. There are yet possibilities to the northwest and in spite of the United North & South's dry hole and the Danley dry hole the field may extend to the northeast and southwest.

The Mid-Kansas Oil & Gas Co.'s No. 2 Brewer, which came in a little less than a quarter of a mile east of the discovery well has repeated the history of the Sun's No. 2 A. H. Gomillion and the Cranfil & Reynolds-Marland's No. 1 F. A. Gomillion and settled the second and third days to about 100 bbls. an hour and by the middle of this week, if it follows the precedents of the other two, will be making around 1,500 bbls.

Lack of Water Still a Factor

Lack of water has held back the drilling of new wells and at this time many rigs are still held idle on that account. The Flannigan water line from Plum Creek was completed and started operating the first of the week but the pumping system was insufficient and broke down and a second engine and pump were put in midway between the source of supply and the field. It is able to supply only a few rigs.

Humble Oil & Refining Co. and Marland are jointly laying a water line which has not been completed yet. Sun is also laying a water line and in addition is laying a 4-inch oil pipe line to Dale and will run its own production. Sun has completed its No. 4 A. H. Gomillion, in the northeast corner of the 100-acre tract, and a diagonal offset to the Cranfil & Reynolds-Marland's No. 1 F. A. Gomillion. The Sun's well came in making around 400 bbls.

Witherspoon Oil Co., which bought the 30-acre Brewer tract of Lefevre & Storey with the discovery well, is swabbing the discovery well after deepening it and will probably make a 150 to 200 bbls. well. Number 2, on the same lease, is being drilled in. Milles Bennett completed the purchase of the McClannahan & Crouch 36-acre Brewer lease and has taken charge.

Mirando District

Features of interest in the Mirando district are the shaping up of a deal to combine a number of producing properties under the ownership of the United Central Oil Co. with the announcement of its purchase of a five-eighths interest in the Two Republic Oil Co. for a consideration of $58,000, and the possibility of the Big Bend Oil Co., (Henne, Winch & Fariss) discovers of the Jim Hogg County Pool finding an extension in a well a mile south of production on Lot 13 of the Martinez tract that found sand with a showing of oil at 2,026 feet, which is about the same depth as other producers farther north.

The Two Republics' properties of which a five-eighths interest has been purchased by the United Central which is successor to the White Oil Corp., comprises Block 20 of the Los Ojuelos grant in the Schott Field amounting to 80 acres with six producing wells. The $58,000 is said to have been cash. It is understood that options have been taken on some other properties in the Mirando district.

The Big Bend Oil Co.'s well on Lot 13, a mile south of the south end of the Jim Hogg County Pool, is setting casing to test out. It is a little west of where C. E. Lang drilled a dry hole but the Big Bend well has found the sand 50 feet higher than the Lang well. Furthermore, the Jim Hogg County Pool seems to be one of the narrowest pools on record. For the most part it is only two derricks wide, so that the Lang well could miss it and the Big Bend well be a producer.

There are no dry holes between the Plateau-Buchanan's No. 4 Martinez which is the farthest south of any producer in the field and the Big Bend's well on Lot 13, a mile south. Plateau-Buchanan are spudding in a test on Block 10 in between. Production of the pool with about 40 wells is averaging a little less than 100 bbls. per day per well. Magnolia has completed its No. 6 Oscar Thompson in the south part of the field making 25 bbls.

Webb County

Burton and others, in Block 21, Survey 335, Webb County, north of the Carolina-Texas Co.'s six gas wells has a little oil showing in the gas well they recently completed. Thus far it has not been proven as to just how important it is but is being watched with considerable interest due to the fact that there has been more or less expectation that sooner or later someone would bring in an oil well on the edge of that gas field. The well is known as the No. 1 de la Garza and was completed for about 20,000,000 feet of gas.

The Wheatley Oil Co. has spudded No. 16 Los Ojuelos in the Schott Field. Royal Oil Co. has completed No. 8 Edgington, making 100 bbls. and Cin-Tex Oil Co. has completed No. 50 Los Ojuelos making about 100 bbls. In the proven field of the Mirando district outside of the Jim Hogg Pool only three companies are now operating rigs and these are the Wheatley, Rydal and Cin-Tex.

Rydal Oil Co.-Rycade Oil Co.'s No. 1 Allen, on Section 21 of the Allen ranch, north of Randado in Jim Hogg County, is drilling at close to 1,000 feet and planning to carry 8-inch casing down as far as possible in order to permit of a 4,000-foot test.

Rio Bravo and Associated have let contracts for a number of tests in the proven sections of the Mirando Field and these contracts call for several rigs which will be moved into the field at once.

National Oil & Refining Co. drilling on Survey 701½ in Webb County, midway between the Carolina-Texas and Cole gas fields, has finished the fishing job at 3,200 feet successfully and is setting casing. The Witherspoon Oil Co.'s No. 1 Dillard, on Survey 50, north of the Carolina-Texas gassers, has been plugged and abandoned at 3,005 feet.

L. M. Holden and others, 6 miles east of Hebbronville, in Jim Hogg County, has a showing of oil at 2,626 feet and as waiting for 5⅜-inch to case after having trouble with the 8-inch which it failed to lower. Calumet Oil Co. has spudded in No. 1 Arispe, 2½ miles southeast of Bruni.

Somerset Territory

Ballard & Underwood's No. 1 Eastwood, a Somerset deep test, is drilling in the Austin chalk where it has had a considerable showing of oil, at around 2,200 to 2,300 feet. The Austin chalk is supposed to correlate with the Anona formation which is producing in Louisiana and while there has never been a producer completed in southwest Texas in the Austin geologists have said there might be, and frequently wells get showings in it. The Somerset test will not stop in the Austin.

W. E. Rutledge in a deep test farther south in Somerset on the Kaufman, is in the Austin chalk at 2,500 feet.

Frontier Oil Co. is preparing to bring in the No. 9 Harvey at 1,700 feet and is drilling in the No. 7 Langley at 600 feet. Johnson Brothers have cemented the No. 6 Ed Wells. Frontier Oil Co. is reaming out a 30 to 36-inch hole in the new completions on its leases and it is claimed with increased production.

Medina County

The Arnett Oil Co.'s No. 2 Nixon in Medina County is drilling at 750 feet, having made but 150 feet in a week, on account of rock and boulders.

Hadley & Harmon-Continental Oil Co.'s No. 1 Pryor in Zavala County, after passing through heavy oil said to be similar to Tampico crude, has cored at 1,637 feet and has a light high gravity oil in cholorite. The 100 feet of Anacacho carrying the heavy oil was followed by breaks of cholorite.

Three Rivers Area

Halloran & Gillam's No. 1 Peeler in southern Atascosa after setting 12½-inch surface casing at 60 feet has resumed drilling. Old Ocean Oil Co. has abandoned No. 2 Brown at 1,520 feet and is deepening No. 4 Calliham in the Calliham Field. Grubstake Investment Association's No. 3 Jacobs, shut down; Aycock's No. 2 drilling with spudder at 127 feet to develop shallow gas; Darden & Stephens' No. 3 Fouchs, has cemented

News of Mexican Fields

By George Blardone

TAMPICO, Mex., April 25—With 23 wells finished the past week in Mexican fields, 10 can be listed as producers with new potential production of 27,660 bbls. This is a much better average in pay producers than has been obtained in some time, and while only one producer is reported from the south fields in the producers listed, the remaining nine northern field wells are well distributed over the area in question.

The big well of the week is Mexican Petroleum Co.'s No. 5 San Pedro, close to the Corcovado border, and an offset to La Corona Petroleum Co.'s No. 3 Lot 11 in the latter section, the first well of worth to be drilled therein. No. 5 came in at 1,805 feet, rated good for 15,000 bbls. It is 335 feet shallower than is the No. 3 above mentioned, and just what effect it will have on it remains to be seen when it is connected up and exploitation commences. La Corona has been taking around 7,000 bbls. the day from No. 3 right along. This production, coupled with its production from No. 7 in Lot 6, which is a trifle under 3,000 bbls. a day has given the Corona in round figures 10,000 bbls. a day from the Corcovado. Its No. 2, Lot 11, which was close to No. 3 but a much deeper well, (2,400 feet against 2,140 feet) went to salt water last week while flowing less than 200 bbls. It has been shut in.

The older sectors of the Panuco Field yielded one 5,000-bbl. well during the week when East Coast Oil Co.'s No. 447 Ingenio, not so far distant from the discovery well, came in good for 5,000 bbls. at the shallow depth of 1,782 feet. National Oil Co.'s No. 15 Chijoles, down on the southern edge of the Panuco Field, is reckoned good for 1,000 bbls. at 2,140 feet, this being the first to be completed of a series of wells National has contracted for in this its old sector.

Mexican Sinclair Petroleum Corp.'s No. 7 Tananturo just southwest of East Coast's Ingeno tract, is a 50-bbl. well at 1,925 feet. In the Cacalilao section, International Petroleum Co. has another 5,000-bbl. producer in No. 163, Lot 5, a shallow well at 1,845 feet; and removed from immediate juxtaposition to its other producers there. New England Fuel Oil Co.'s No. 5, Lot 3, is rated 400 bbls. at 1,700 feet.

In the Corcovado, Mexican Sinclair Petroleum Corp.'s No. 2, Lot 1, offsetting La Corona's No. 3, Lot 11, did not hold up to its original promise when it commenced flowing 1,000 bbls. at 1,800 feet, and it is now a completion at 2,203 feet, good for 150 bbls.

In the El Barco, Mexican Gulf Oil Co.'s No. 68 is a 30-bbl. well at 2,450 feet; and in the Caracol, southeast of El Barco, Venable and others' No. 25 is rated for the same volume at 2,000 feet.

In the south fields, Huasteca Petroleum Co.'s No. 58 Cerro Azul is finished at a sub-sea level of 1,185 feet, rated good for 1,000 bbls.

The Failures

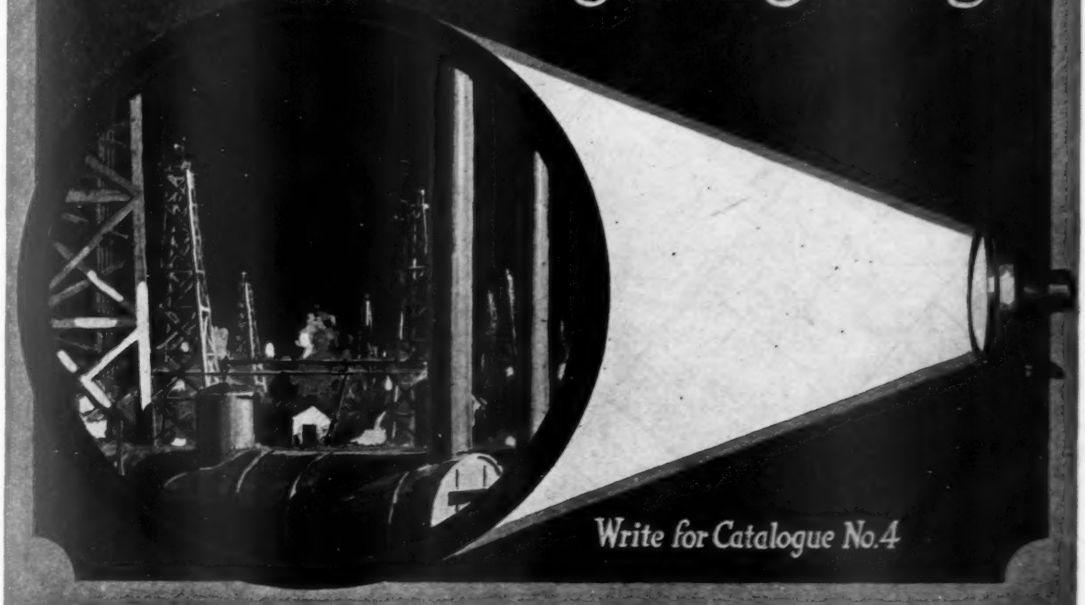
The failures during the week were as follows: In Cacalilao: International Petroleum Co.'s No. 155, Lot 5, salt water at 2,352 feet; Nos. 160 and 164, same lot, dry holes at 2,300 and 2,252 feet respectively. Mexican Sinclair Pe-

(Continued on Page 102)

PYLE-O-LYTES

The Brighter Flood Lights

for all Industrial Night Lighting



Write for Catalogue No. 4

Increase Production—Cut Down Overhead

PYLE-O-LYTES

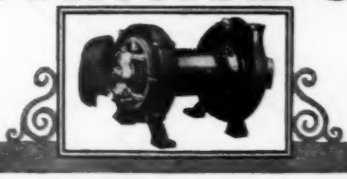
You'll find a wide range of types and sizes for every flood-lighting requirement.
Cases built of long-lived cast aluminum alloy that will outwear ordinary sheet metal units—Storm, Gas, Rust Proof.

STEAM TURBO-GENERATORS

Pyle—National Steam Turbo-Generators are made in five types—Capacities ranging from 500 watts to 7½ K. W. Steam consumption less than that of any other turbo-generator of equal size and capacity.

The PYLE-NATIONAL COMPANY

General Offices and Works:
1334-58 N. Kostner Ave.
CHICAGO



In Canada:
The Holden Co., Ltd.
Montreal, Winnipeg,
Vancouver, Toronto

at 1,100 feet; Coquat and others' No. 2 Hicks, tested at 600 feet was a failure and is being drilled deeper; George B. Pickett's No. 1 James, at 1,056 feet is being temporarily abandoned at that depth. It may be drilled deeper.

Plateau Oil Co.-Texas Pacific Coal & Oil Co.'s No. 1 D. B. Miller, in southern Live Oak, 1 mile west of the two gas wells completed by them, is setting casing preparatory to testing out for gas at around 2,385 feet, the depth of the two gas wells.

Lockhart Field

Cranfil & Reynolds-Marland Oil Co.'s No. 1 F. A. Gomillion in the Lockhart Field, which came in making around 3,000 bbls. the first day, after holding steady at 100 bbls. an hour for several days, dropped to about 650 bbls. It has not been cleaned of the paraffin and the production came up to over 800 bbls. It is understood the Sun Oil Co. expects to clean its wells soon though its Nos. 1 and 2 on the A. H. Gomillion, are making a combined production of around 1,700 bbls. a day, the production, however, being a little erratic and some days more than others.

Drilling is extending over a much wider area this week due to water being available for drilling. Humble Oil & Refining Co. has seven wells drilling and has let contracts for a number of others. Several tests will be made by various interests southwest of the producing area. Mitchell & Jones, north Texas operators have a derrick up on the Marland Oil Co.'s 40-acre lease out of the Tabor estate 1¾ miles southwest of the discovery well. E. L. Smith Oil Co. has a derrick up on the Marland Oil Co.'s E. T. Lackey lease three-quarters of a mile to the southwest of the discovery well. Jake Jarmon is waiting for fuel being all rigged up on No. 1 W. H. Watkins, 3 miles southwest of the discovery well.

Grayburg Oil Co. is rigged up on its No. 1 C. Beaty, nearly a half mile west of nearest production and Humble has a derrick up for its No. 2 H. F. Brewer to offset Grayburg. Sun Oil Co.'s Nos. 1, 2 and 4 are producers. Number 3 located between 1 and 2 is drilling in. Numbers 5 to 12 are locations with derricks up.

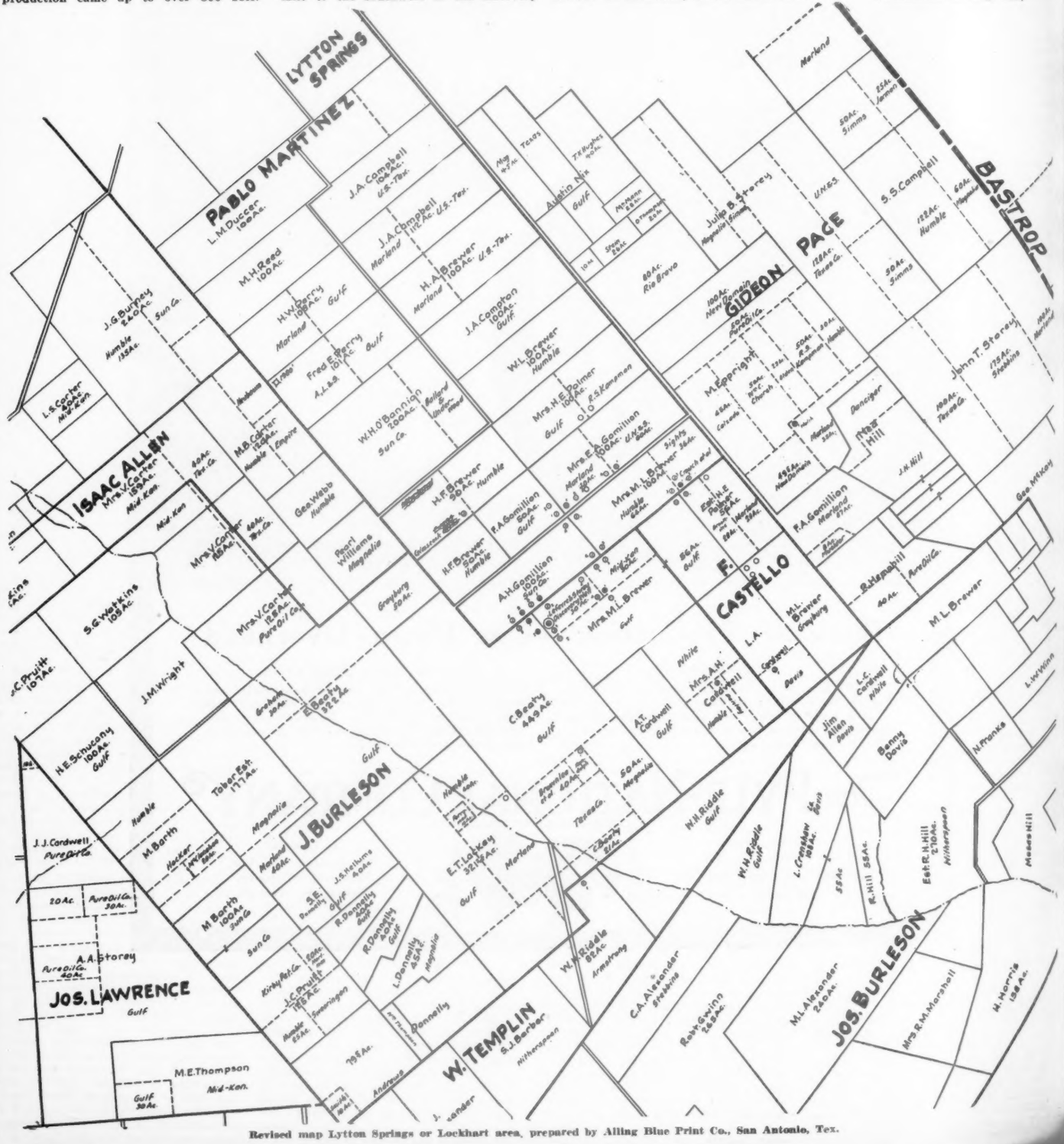
Witherspoon's No. 2 Brewer has topped the pay sand at 1,170 feet. Derricks are up for Witherspoon's Nos. 3, 4, and 5. Mid-Kansas's No. 3 is drilling in and No. 4 is drilling at close to 1,000 feet.

Gulf Production Co.'s No. 1 Brewer, which offsets the Mid-Kansas' No. 1 Brewer on the south, tested out to be a small producer and has been deepened in the hope of increasing the production. Gulf Production Co.'s No. 2 F. A. Gomillion has topped the pay and will probably make a well. It is two locations west of the Cranfil & Reynolds-Marland F. A. Gomillion No. 1.

Joe Walsh-Marland Oil Co.'s No. 1 Eppright, a half mile east of the nearest production is rigged up and waiting for water. R. S. Kampmann's No. 1 H. E. Palmer, a quarter of a mile north of nearest production has spudded in. J. M. Davis' No. 1 L. A. Cardwell is drilling and had a little showing of oil at only 200 feet and Armstrong's No. 1 Riddle has spudded in and got a little showing of oil at 300 feet.

Randolph and others' No. 1 C. Beaty is rigged up. Cope and others' No. 1 C. Beaty has spudded in. Both tests

(Continued on Page 119)



Revised map Lytton Springs or Lockhart area, prepared by Alling Blue Print Co., San Antonio, Tex.

the World Over

CONTROL CASING HEAD

The simple design and sturdy construction has made this Control Head popular wherever oil is produced.

Cast of semi-steel to save excess weight and give added strength. Few working parts—four pieces only.

Made either in screwed or flange type.

IMPROVED ROLLER OIL SAVER

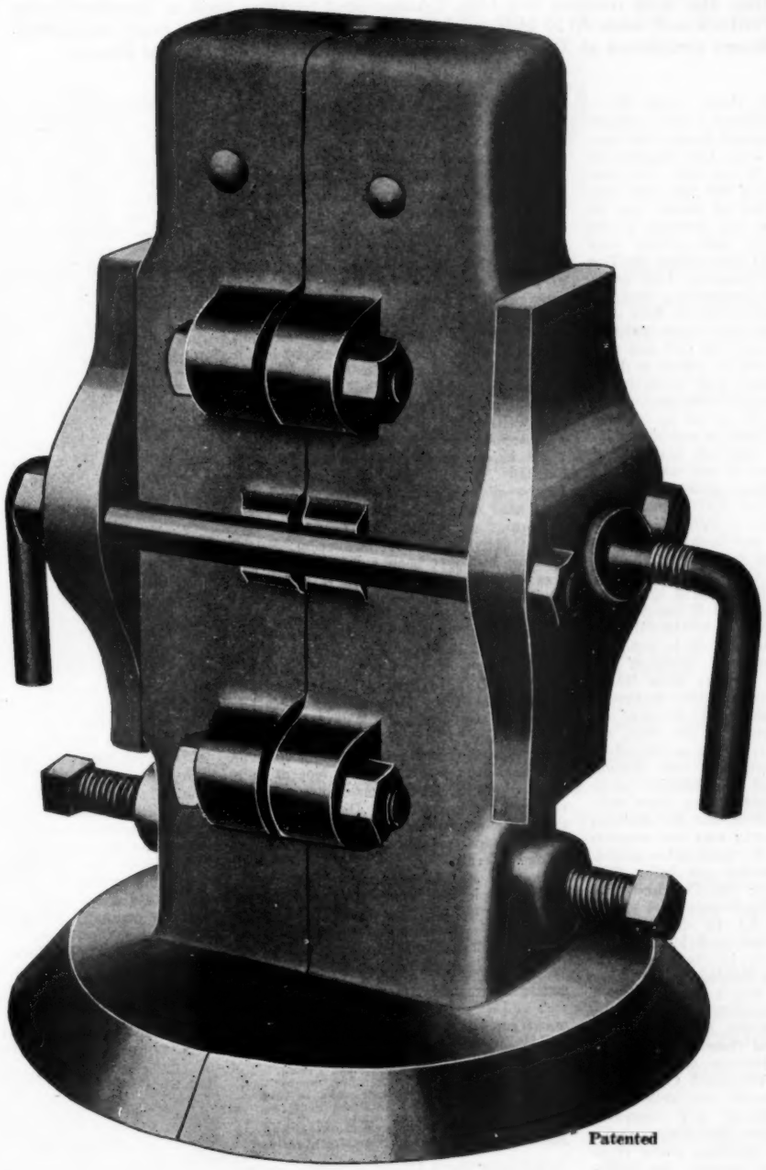
The last word in oil conservation—an oil saver that saves the oil.

Built in two sections—two sets of rubber packing that fit the wire line, adjustable to take up wear.

New rubbers are replaced one set at a time. No loss of oil while changing the rubbers. Drilling operations need not be stopped while changing rubbers.

Body of sturdy construction, built for satisfying service.

Indispensable in fields where gas pressure is high. In fact it is considered standard equipment in the oil industry.



Patented

Stocked by the Leading Oil Field Supply Houses in every Oil Field. We will be glad to send descriptive circular covering either or both of these pieces of equipment on request.

THE OIL WELL IMPROVEMENTS CO.
Tulsa, Okla.

California Field Operations

By L. P. Stockman

Standard completes well on its Los Angeles Investment lease No. 1 in quick time, the well making 632 bbls. Associated returns well to production at Ventura and adds 3,130 bbls. of 26.8 gravity oil to output. Four small producers completed at Torrance. Associated spuds in test at Seal Beach.

LOS ANGELES, Calif., April 25.—The Standard established a new completion record at Inglewood during the past week when its No. 4 on Los Angeles Investment lease No. 1 was put on a production test. A total of 632 bbls. was produced during the first 24 hours, the oil testing 19.1 degrees and showing a cut of 1 per cent. This well, which was brought in from 2,211 feet, makes the Los Angeles Investment property look quite promising for big production and increases the potentiality of the field considerably. No. 5 on this same lease is standing cemented at 1,999 feet and this hole, together with No. 6, which is drilling ahead at 906 feet, will probably be on production within the next two weeks. Nos. 7, 8, 9, 10 and 11 should be spudded in the near future and it would not be surprising if they were all tanking oil within the next four to six weeks. On Los Angeles Investment lease No. 2, No. 1 is drilling ahead at 5,470 feet, while No. 2 is cleaning out at 2,044 feet. Nos. 3 and 4 have not yet been spudded in but work should get under way shortly. The Standard has two drillers, Nos. 4 and 5, on Vickers lease No. 1, and two rigs standing, Nos. 6 and 7. On Vickers lease No. 2, well No. 2 is in the oil sand at 2,291 feet, while No. 3 is reaming preparatory to landing a string of 11-inch at 2,100 feet. Vickers lease No. 3 shows one rig and one location mapped.

H. D. Brown, owning 200 acres of oil land in the very heart of the field, refused to accept any of the many offers made for his property and will develop it himself. Several substantial cash bonuses and excellent leases were submitted for consideration, but his decision to develop the property was not surprising as he is a man of considerable means. Articles of incorporation are being filed for the Brown-Moore Oil Co., and this concern, of which he is principal stockholder, will undertake to develop the lease. Very little time wast lost, following Brown's decision, in starting work, as material is being hauled in for a rig 130 feet north of No. 1 Dabney-Lloyd of the Petroleum Securities and 150 east of No. 1 Vickers of the Associated.

May Suspend Operations

Neither No. 7 Sentous of the Pan American nor the Universal Consolidated's No. 1 Youngsworth, two wells being watched closely, showed any improvement during the week. The former hole, which is only two locations away from production, has just passed the 2,960-foot level, and it is reported that unless some favorable indications are encountered above 3,000 feet, the company will suspend operations. No. 1 Youngsworth shows 3,998 feet of hole and not even a color noted to date. Oscar Howard's No. 1 Dominguez is drilling ahead at 2,980 feet, the formation being an alternating sand and shale. This hole is being watched very carefully and, although a few minor showing have been noted, they were not sufficient to warrant a test. It is believed, however, that Howard stands an excellent chance of picking up the sand around 3,000 feet as the structure has shown a tendency to dip at this point.

The Petroleum Midway picked up an exceptionally good looking sand in No. 2 Moynier at 1,313 feet and the company is making preparations to land a string of 12½-inch. No. 3 has just been spudded in and foundations are being set for No. 4. On the Smith property, the Petroleum Midway has just drilled out No. 5 and is rigging up No. 2 and hauling in material for No. 6. The Petroleum Securities (Doheny) is making good headway on the Cone, Lloyd and Rubel leases. The Cone property shows one driller, No. 6, at 1,908 feet, and rigs going up for Nos. 5 and 7. No. 1 Lloyd is in the oil sand at 1,905 feet, while Nos. 2 and 3 are rigging up. The finishing touches are being put on rigs for Nos. 1, 2, 3, 4, 5 and 9 on the Rubel holdings, with a location staked for No. 10. The Associated has a good looking oil sand in No. 2 Vickers, at 2,466 feet and, judging by the thickness of the formation penetrated so far, this well should be an excellent one upon completion. A little more hole will be made before the well is passed for production. No. 1 Vickers is drilling ahead in the oil sand at 2,810 feet and, while this hole does not exhibit as favorable symptoms as No. 2, it is in proven territory and assured of production. No. 5 Vickers has just been spudded in, while rigs are going up for Nos. 3, 4, 6, 7, 8, 9, 10, 11 and 12, the derricks being in various stages of construction.

The Wilshire Oil Co. has refused to release any information on its No. 1 Nolan, but a drill pipe count indicates a depth of approximately 2,500 feet. No. 3 Machada of the Mohawk Oil & Gas is standing cemented at 2,330 feet and a small pumper is anticipated upon completion. The Shell started operations on No. 1 Rindge and has made 981 feet of hole since spudding. The Superior has not yet resumed work on No. 1 Picot, following the suspension order of several weeks ago but will do so as soon as field developments warrant.

Rosecrans

No completions were recorded at Rosecrans during the past week, although several holes look good for early production. The Petroleum Midway, California Petroleum, should add at least one new hole to its list of producers within a short time, as pipe has been set in both No. 1 Baskin and No. 1-A Ducommon. The company's remaining drillers are making satisfactory progress but are not yet in a position to make tests. E. J. Miley picked up the pay in No. 5 Athens at 4,805 feet and, while this hole looks good for production, No. 6 is not very encouraging at 5,456 feet. Walter H. Fisher's No. 9 Athens is showing an increase in production since coming in as a gasser and it is expected that before the expiration of the present week a satisfactory output will be built up. The Union abandoned No. 1 Horowitz, which was drilled to 1,900 feet several months ago and suspended at that depth pending the outcome of the Standard's No. 1 Cowan, now at 6,412 feet. The latter is not given very much chance for completion and even if production should be secured it would have to be quite large to warrant this deep drilling.

No. 1 Leonis of the Shell, in the extreme north, is going ahead in a hard sand at 5,606 feet, while the Chanslor-Canfield Midway Oil Co.'s No. 1 Bilhorn is down 3,748 feet. J. B. Dabney is drilling out the cement in his northern outpost carried down to 5,773 feet and will make a test if conditions are favorable. The Hercules Gasoline Co. is putting the finishing touches on the rig for No. 2 Athens and drilling should get under way within the next week or 10 days. The Sentinel Oil Co. was not successful in securing commercial production in No. 4 Athens in the upper zone at 4,185 feet, due to salt water. The flow was killed and drilling will be resumed with an ultimate completion anticipated in the deep zone. The oil sand picked up a week or two ago by the Superior in No. 2 Maxwell Community in the southern part of the field did not come up to expectations and the company is going ahead at 5,191 feet.

Ventura

The Associated reports the recompletion of No. 5 Lloyd in the Ventura Avenue Field, after redrilling and deepening it to 4,695 feet. The well came in flowing 3,130 bbls. a day of clean 26.8 gravity oil, accompanied by 3,000,000 feet of gas. The return to production of this well gives the Associated an approximate production of 10,000 bbls. a day from the deep zone on the Lloyd lease. This should be augmented in the near future by the completion of No. 17, now at 4,850 feet, and No. 18, at 4,255 feet. No. 15 Lloyd is standing cemented at 2,003 feet, while Nos. 22 and 31 are all rigged up and ready to go. The General Petroleum has No. 6 Notten in the oil sand at 4,500 feet and the heavy gas pressure indicates that a fairly good producer can be expected. Judging by other completions on this lease, No. 6 should be good for about 500 bbls. a day. No. 4-A Barnard is just getting under way and drilling ahead in a sandy shale at 2,043 feet.

The Shell has just spudded in another hole on the Edison lease, No. 4, at 625 feet, and is going ahead in No. 3 at 2,220 feet. On the Gosnell property, No. 5 is wet at 4,011 feet, as is also No. 7 at 4,821 feet. No. 8 has been temporarily suspended at 5,082 feet, while No. 6 is fishing for some drill pipe at 4,313 feet. No. 9 is being tubed at 4,333 feet, while No. 11 is drilling at 3,100 feet, No. 14 at 2,650 feet and No. 15 at 1,456 feet.

E. J. Miley set a string of 20-inch stovepipe at 315 feet in his shallow hole at Red Mountain and has drilled ahead to 390 feet, at which depth a water test will be made during the coming week. This hole looks fairly promising for shallow production. The Union is reaming No. 1 Snyder at 3,094 feet, preparatory to making a production test of this South Mountain well in the near future.

Dominguez

The Shell and Marland, both drilling deep tests at Dominguez, should establish conclusively the existence or absence of a deep producing horizon in this field. The Marland's test, No. 7 Dominguez, is in the southern part of the field and just now drilling ahead in a tough shale at 4,600 feet. The Shell turned No. 2 Childs into a deep test, following its unsuccessful production in the upper zone, due to edgewater. This hole is reported in a sandy shale at 5,400 feet and, although no encouragement has been received since passing through the upper horizon, there is still a chance of developing deep production.

Many geologists have been of the opinion that a deep zone exists in this field and the present tests of the Marland and Shell should go a long way toward proving or disproving this theory. It is quite possible, however, that another test will be drilled in the central part of the field if these two should turn out to be duds. Deep zones are usually larger in area than the upper horizons and this condition has led the Shell and Marland to deepen upper zone edge wells and explore the underlying formation. In the northern part of the area, General Petroleum's holdings were prospected fairly deep, while the Shell carried No. 1 Hellman down to 6,075 feet. Very little drilling, except that mentioned above, is being done at Dominguez, development work being practically at a standstill.

Torrance

Four new producers were finished at Torrance but they were all comparatively small. The General Petroleum carried off completion honors by finishing two pumpers on the Poggi lease, Nos. 6 and 7. They were both drilled to 3,800 feet, 6¼-inch oil strings being used in each case to finish the hole. The former started off doing 198 bbls., while the latter is listed at 201 bbls., the oil testing 17.2 degrees and showing a cut of 3 per cent. The company has just placed No. 20 Poggi on a pumping test after several weeks of painstaking effort and it looks good for about 25 bbls. a day. The Chanslor-Canfield Midway Oil Co. placed No. 42 Del Amo on the beam at 3,660 feet and it started off pumping 134 bbls. of 17.6 gravity oil. No. 16 Del Amo is drilling ahead at 3,200 feet, while No. 48 is in a sticky shale at 2,900 feet. No. 54 is being rigged up, while No. 103 is material and No. 104 a location. In addition

(Continued on Page 94)

TANKER SHIPMENTS FROM LOS ANGELES TO ATLANTIC AND GULF COAST PORTS

Following is a list of tankers, date departed, destination, kind of cargo and amount in barrels:

Agwistone, April 13, New York, crude	105,091
Agwihavre, April 14, Baltimore, crude	95,704
Bohemian, April 14, Philadelphia, refined	80,149
Standard Arrow, April 15, New York, refined	92,147
Halo, April 15, Boston, crude	75,992
H. C. Folger, April 17, Philadelphia, refined	75,474
Japan Arrow, April 18, New York, refined	90,317
Coastwise	
Los Alamos, April 13, San Francisco, refined	36,830
La Purisima, April 13, Portland, refined	32,177
Mericos H. Whittier, April 14, Avon, crude	74,137
Salina, April 14, Portland, fuel	65,209
K. R. Kingsbury, April 15, Richmond, crude	85,616
Charlie Watson, April 15, San Diego, refined	15,704
Emidio, April 16, Portland, refined	72,846
La Placentia, April 16, Martinez, crude	75,191
Frank H. Buck, April 16, Avon, crude	65,019
Los Angeles, April 17, Martinez, crude	76,351
W. S. Miller, April 17, Richmond, crude	75,909
Lebec, April 18, Seattle, fuel	65,422
Warwick, April 18, Seattle, refined	43,184
Mericos H. Whittier, April 18, Avon, crude	75,263
K. R. Kingsbury, April 19, Richmond, crude	80,714
Exports	
San Melito (Br.), April 14, Chile, fuel	100,588
Mina Bres (Br.), April 16, Vancouver, crude	43,197
Sata (Jap.), April 19, Japan, fuel	55,411
George H. Jones, April 19, Hamburg, refined	82,934
From Ventura	
Frank G. Drum, April 15, Avon, crude	72,911
Wm. F. Herrin, April 16, Avon, crude	46,085
From Port San Luis	
Oleum, April 19, San Diego, fuel	30,474
From San Francisco	
Atlas, April 13, Gray's Harbor, refined	11,697
Swifteagle, April 13, Gray's Harbor, tops	78,446
Lubrico, April 13, Willbridge, fuel	86,715
El Segundo, April 15, Point Wells, refined	29,076
H. T. Harper, April 15, Seattle, refined	32,477
Kewanee, April 16, Linnton, refined	27,480
Shabonee, April 19, China, refined	49,641

just above the sand in its Whittaker

Cut your Tubing, Rod Pulling and "Shut Down" Costs 50%

Above: Shows Truck Type which fits your regular Pulling Machine. Wheels are lifted clear of ground, tight against friction wheels.

Below: Tractor Type is installed in rig and operates on exactly the same principle as Truck type. A speedy, powerful, heavy duty equipment.

Users of Bradford-Dewey Friction Wheels tell us they are making these savings over other methods formerly used.

They will tell you the same thing. Here's a simple . . powerful . . speedy . . easily handled equipment that will save dollars for you on your work.

It's a real time and labor saver.

BRADFORD-DEWEY FRICTION HOIST

When fitted, merely back your Ford Truck or Tractor up to the frame. Two hooks—connected with steel cable to the spooling shaft, fit under the rear axle.

Start the motor, touch the friction lever and the truck or tractor wheels are drawn tightly against the grooved friction wheels, turning the main lifting cable drum.

The motor speed is controlled by the brake lever, giving you any lifting speed required.

Both controls are within easy reach of operator.

The truck type has a lifting pull of five tons, easily. The tractor type is three times more powerful.

A letter will bring detailed information.

BRADFORD RIG & REEL CO.
TULSA OKLAHOMA

Rocky Mountain Area

By F. B. Taylor

Eastern Wyoming wildcats attract attention near Lance Creek Field. Producers & Refiners Co. gets 1,500-bbl. well in Lost Soldier Field, but rig burns. Nine Salt Creek completions. Gas in Morrison formation interests Montana operators. New pipe line from Wellington, Colo., Field.

CASPER, Wyo., April 26.—Eastern Wyoming is to have two wildcat tests drilled shortly. The Sunset Oil Co. of California has arranged for the drilling of a wildcat well on Section 32-34-65, about 12 miles south of the Lance Creek Field and about the same distance north of Manville. Local people of Manville have financed a well to be drilled near that town on the strength of a radio device which was tried out there and, according to its operator, indicated petroleum.

Wildcat wells in and around the Lance Creek Field area are of great interest to the oil companies operating in this region because of the way Lance Creek itself has acted and the surface indications. Lance Creek Field is on a structure rather hard to define on the surface and the drilling of the field did not correlate with the surface by any means except in a general way. There are many other indications of structures in the surrounding area of Lance Creek and the main axis of the structural formation can be followed on the surface to the southwest for many miles.

It has long been the hope of many oil operators here that a feeding pool of oil would be found that would be the mother pool of Lance Creek, for that field seems to be streaked and merely an outlying edge of some larger area. The wells seem to indicate that the production lies in arms or bays with dry areas between, but so far all attempts to get on top of the larger production have failed. The surface geology is quite hard to correlate, as in the vicinity of Lusk and at other points, the White River formation of the Tertiary can be easily identified while close by are dykes of schist, granite and the like.

The Hatfield Oil Co.'s well on the Eight Mile Lake Dome, south of Rawlins, Wyo., has sidetracked the lost string of tools that has held up drilling for the past two weeks and is now going down with a 4-inch string of tools. The hole is at 4,184 feet, and the Dakota sand is the objective, expected about 4,300 feet. This is the second well on this structure, the first proving to be a gasser in the Dakota and now furnishing gas for the Parco refinery.

Good Well in Lost Soldier

Another good well came in in the Lost Soldier Field, in Carson County, Wyoming. The Producers & Refiners, drilling on contract for the Wyoming-Illinois Oil Co., on Section 11-26-90, found a producer good for 1,500 bbls. and then had the misfortune to have the well catch fire during the flow and lost the rig and outfit. The fire was put out in about seven hours and the well is now shut in and a new rig going up.

The E. T. Williams home camp, in the Salt Creek Field, on Section 11-39-79, was the scene of a fatal explosion of gas in a dwelling which was completely wrecked and T. B. LeVangie, 27 years old, a field worker, was killed while 10 other persons were sent to the hospitals in the field. LeVangie came from Newfield, N. H.

The area around Teapot Dome is again looking up. The Teapot Dome Syndicate started pumping the well on Section 2-38-78 that was drilled to the Shannon sand at 800 feet and the well made 750 bbls. in three weeks.

The Midwest Refining Co. completed nine wells the past week in Salt Creek. The Salt Creek Consolidated Oil Co. found an excellent producer in the shale at 1,152 feet on Section 11-39-79 that started off at 918 bbls. The Midwest Oil Co. found a small producer of 5 bbls. on Section 14-40-79 at 1,945 feet, and has a 10-bbl. pumper on Section 35-40-79 at 1,449 feet.

The Wyoming Associated Oil Co. completed three wells, the first on Section 26-40-79, at 1,448 feet, will make 10 bbls.; the second, on Section 35-40-79, at 1,145 feet, will make 844 bbls., and the third, on Section 24-40-79, at 1,805 feet, will make 120 bbls.

The Midwest Oil Co. also completed a producer good for 50 bbls. on Section 35-40-79, and the Wyoming Oil Fields Co. has a producer good for 5 bbls. on Section 22-40-70, at 1,964 feet.

The Mountain & Gulf Oil Co. completed a second Wall Creek well on Section 6-39-78 at 2,226 feet that will do 20 bbls.

The well of the Mach Oil Co., drilling on Sheldon Dome, 50 miles north of Riverton, has cleaned the hole and is now resetting casing. A lost reamer lug required the pulling of all strings of pipe before it could be gotten out. The casing is all back and the hole is at 2,800 feet.

Gas in Morrison Formation

The Utah Oil & Refining Co.'s discovery in the wildcat on the Ashley Creek Dome in Uintah County, Utah, is considered of importance. It found commercial gas production in the Morrison formation at 1,685 feet. So far in the wildcat wells and fields of the Rocky Mountain region, the Morrison formation containing several sandstone members, has always been found dry and this has caused it to be regarded as a dry formation throughout the region where no production of any kind may be expected. The Utah's well proves that the Morrison is capable of bearing gas so it will come in for further examination in the wells and fields. The Morrison formation comes in under the Dakota formation and is about 250 feet thick. Usually the drillers consider they are in the Morrison when they have drilled through the bottom of the conglomerate sandstone that is the lower sandstone of the Dakota formation. Some of the geologists place the Morrison formation as being a part of the lower Cretaceous, while others classify it as part of the Jurrassic. Either way makes it a division point between the Cretaceous and the Jurrasic.

Cat Creek Field

The Homestake Oil Co., drilling on Section 10-15-29, in the Cat Creek Field of Montana, brought in a good producer of 50 bbls. at 1,359 feet, in the Kootenai sand. The work in the vicinity of Cat Creek is routine in the main, but the McDonald Creek area, lying just southwest of the Cat Creek Field, is showing signs of activity. This area has a chance to prove a shallow productive area of an average of 900 feet in depth and three small machines are to start drilling shortly.

The Montana oil operators are scheduled to hold a meeting at Great Falls, on May 2, for the purpose of forming a Montana Chapter of the Rocky Mountain Petroleum Association. This organization was formed in Casper by the men prominent in oildom in the Rockies and has met with great success in its efforts to better the conditions for the oil fraternity in the field work and in solving problems in the industry. Former Governor B. B. Brooks of Casper is the head and one of the prominent founders of the organization.

Wellington Dome Tests

The Union Oil Co. of California and the Joe Cook Oil Co. have reached an agreement by which the Union will drill a joint well on Section 7-9-68, on the southern part of the Wellington structure in the Fort Collins Field in Colorado. This is the first start of the Union to branch out in the tests of the structure, the other wells now drilling being close to the central part of the structure and in positions where production is practically assured. The location for the new joint well is south of anything yet drilled on the Wellington structure and would extend the field over 1 mile to the south if production is found. The Union of Colorado's well is expected to be in the Dakota sand within the coming fortnight and will also furnish an idea of what can be expected south of the central part of the structure.

The Sovereign Oil Co., composed mainly of local Colorado people, has made a location on an 80-acre tract in Section 17-9-68 in the south end of the Wellington structure. This is even farther south than the location of the Union of California and will mark plainly the southern extension of the area when it reaches the Dakota. The contract has been let and work is expected to start at once.

The Union of California set a packer just above the sand in its Whittaker well on the Fort Collins structure in order to reduce the size of the hole. The packer has a string of tubing on top and with the heavy rock pressure of the well, this is expected to help keep the hole clean from the mud that has collected at the bottom from cavings.

The Collins Oil Co. has taken over the leases of the Imperial Oil Co. on Section 32-10-68 on the north end of the Wellington structure.

The Union of California has completed the new pipe line from the discovery well on the Wellington Dome to the new loading rack built by the Union Pacific to accomodate oil loadings in the north end of the Fort Collins Field. The oil for this line will come from the big gassers that are making some oil also, and the Union Oil Co. of California will save considerable tankage through the building of the line and loading rack.

Secret Service Sensation

Some excitement is expected around Fort Collins in the near future according to reports. Last year a couple of wide awake young men appeared in that vicinity as oil stock salesmen and have been working there for nearly a year. Recently the two men departed and it is now coming out that the pair were operatives of the secret service looking up the sales of bogus oil securities, of which they found a large number which were being sold on wild claims which could not be substantiated. Further, a special United States District Attorney is now in Denver taking up the matter.

Guy Wheelock, a driller in the employ of the Union of California, was instantly killed in the derrick of the Union's well, State No. 1, by a flying piece of sprocket chain which passed through his body as he was running from the derrick. The crew had started to raise the 8¼-inch casing, intending to pull it out, when something went wrong and the casing which had been raised about 28 feet started back down the hole. Wheelock was at the brake but he was unable to hold the weight of the string of pipe and he jumped for safety. At the same time the tooldresser also started to run. The casing went through the spider on the floor and several feet below the bottom of the cellar before it stopped and the flying pieces of the sprocket chain went in every direction, some being picked up many hundred feet from the derrick.

In spite of the strenuous opposition to the executive order from Washington moving the Douglas Land Office of the Government from that city to Cheyenne where it will be combined with the

(Continued on Page 94)

News from Fields of Canada

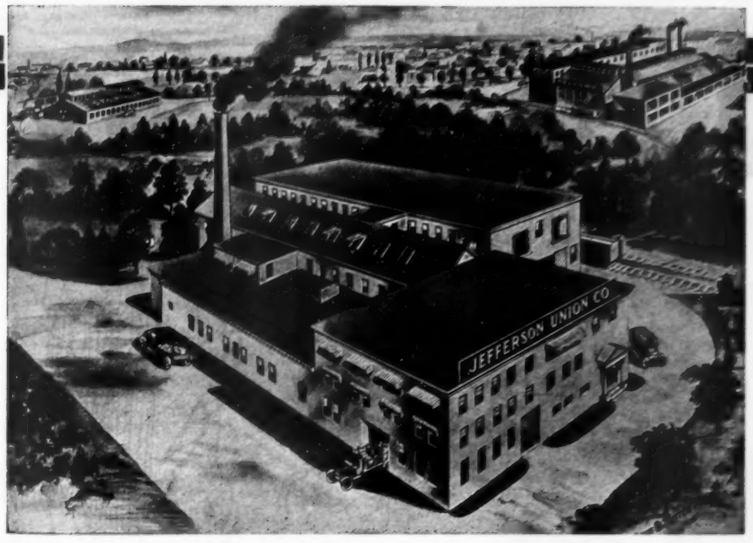
By Victor Lauriston

CHATHAM, Ont., April 25.—In the Turner Valley-Okotoks Field, southwest of Calgary, developments at the Royalite Oil Co. No. 4 have resulted in a mild edition of the famous Calgary oil boom of 11 years ago. Heavy filings have been made in the Turner Valley area, with a wild scramble for close-in acreage; while outlying areas more or less incompletely tested in 1914 are once more receiving attention from speculators. Much of this activity is, of course, speculative, but a fair amount of real development work is in sight. Besides the two new tests to be drilled by the Royalite Oil Co., both of which may be definitely drilling by June 1, several other organizations are locating tests. The McDougall-Segur Exploration Co. and Huronian Prospectors, Ltd., are arranging for a test in the west half of Section 12-20-3w5. The location is a little west of Royalite No. 4. Two other tests on the McDougall-Segur acreage may be put down by outside interests on a royalty basis. Probably half a dozen actual deep tests may eventuate from the present leasing activities in this area.

Angus Sutherland of Oil Springs, Ont., left recently for the West to arrange for taking another drilling crew to complete the Imperial Oil test below Fort Norman, started last season. This test is very close to the discovery well, and was down about 900 feet when drilling was discontinued in September. While the drilling crew can hardly reach the location much before July 1, it is expected this season will see completion of the test now under way and perhaps a new test started. The drilling season is limited to about 2½ months. It is reported that C. O. Stillman, president of Imperial Oil, Ltd., will accompany the drilling crew to the North.

In the Sweetgrass area, southern Alberta, Jack Reynolds, drilling contractor, is moving casing and tools to Section 29-1-11w4 where work is being resumed on the Rogers-Imperial well of the Canadian Oil & Refining Co. The 4½-inch casing will be set around 2,700 feet and the well drilled into the Ellis sand. It is reported that the gas, which when first struck was distinctly a dry gas, is showing traces of gasoline, and that a little oil has been

(Continued on Page 119)

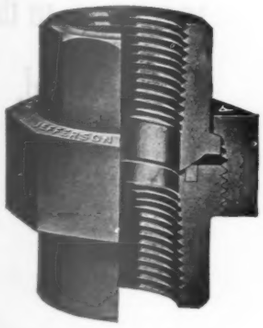


The World's Largest Makers of Unions and Flanges

The great plant of the Jefferson Union Company at Lexington, Massachusetts, is devoted solely to the manufacture of unions, flanges, and pipe fittings.

It has been the consistent effort of this company to make the highest grade fittings possible to produce, through better workmanship, better materials, and special patented features which the company controls.

The merit of JEFFERSON products has earned for this company the position of the world's largest manufacturer in their special field.



JEFFERSON Union
Style "A"

2-Part Flange
Style D for 500 lbs.
Style E for 1000 lbs.

"If CONTINENTAL Sells It
There Is No Better"

THE CONTINENTAL SUPPLY COMPANY
General Offices: St. Louis

Export Office: 2 Rector St., New York, N. Y.

London Office: Finsbury Court, Finsbury Pavement, London E. C. 2, England

MORE THAN 70 STORES IN THE OIL COUNTRY

CONTINENTAL

2-38-78 that was drilled to the Shannon uled to hold a meeting at Great Falls, ent leasing activities in this area.

(Continued on Page 119)

LULING STYLE

Clyde Baker, driller for Echols & Carter, set this new record for drilling time in the Luling field.

REED ROLLER

New York

HOU

G H ECHOLS PRESIDENT

C W. L. CARTER SECY AND TREAS

ECHOLS-CARTER DRILLING CO.

INCORPORATED

ADDRESS.

Luling, Texas
March 9th, 1925.

Reed Roller Bit Company,
Houston, Texas.

Gentlemen:

We have just completed Mercer Well No. 6, for the United North & South Company, establishing a record in this field for drilling time, having completed the well in five days and eighteen hours.

We set casing at 2174 feet, drilling to 1745 feet with a fishtail, and then completing the hole with a REED ROLLER BIT.

This 429 feet of chalk and hard lime, we went through with your bit in a little less than five towers

Considering the extreme hardness of this fields rock formation, we are extremely proud of the record made, and we can hardly say too much in praise of your rock bit.

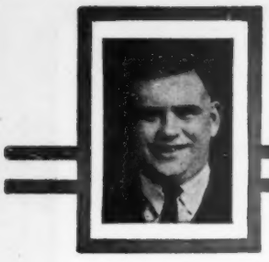
Wishing you every success, we are,

Yours very truly,
ECHOLS-CARTER DRILLING CO.
By Chas W. L. Carter

M/CWLC

ESPECIALLY EQUIPPED FOR WILD CAT WELLS AND DEEP TESTS

ER BIT COMPANY
HOUSTON Los Angeles



Kentucky—Tennessee

By Vern T. Whitney

Increasing activity in Tennessee and Mississippi. H. A. Kiser gets 50 bbls. flush in deep sand, Frost Pool, Allen County, and R. A. McLain 20 bbls. George Smith reported to have 50-bbl. well near Burfield, Wayne County; Union Gas & Oil 40 bbls., North Weir; Ruby Consolidated 20 bbls.

BOWLING GREEN, Ky., April 27.—Reports from eastern Tennesse continue to show increasing activity throughout several of the counties between the new producing area in Tinsley's Bottom, on the west, and Morgan, Scott and Fentress Counties on the east.

It is reported that Anderson, Hagemeyer and Toomey have let contracts for the drilling of three wells in Fentress County, near a well recently completed by the Morgan interests, estimated at 75 bbls. initial production. Toomey and Phelps have leased 600 acres of a 7,000-acre tract, near the recent Russell wells, in the vicinity of Sunbright, Morgan County, Tennessee, to West Virginia parties, who have signed a contract calling for a test within 60 days. Stearns, Kinne, Toomey and others are starting No. 2 on the Stearns lands just over the Morgan County line, in McCreary County, Kentucky, and are letting contracts for two others. These parties recently brought in No. 1 Stearns for a 20-bbl. starter in the Beaver sand.

C. A. Phelps and others are commencing a test on a 4,000-acre tract of land near Sunbright, in Morgan County, Tennessee, near a point where natural gas escapes from a mile-long crevice. It is thought the oil strata will be picked up at about 1,850 feet.

It is stated that more than a dozen strings of tools will be operating in this part of the Volunteer State within 60 days. The little hamlet of Sunbright is already unable to accomodate the newcomers, and other rooming houses will be built. At present the oil from this new district is being shipped in tank cars from the loading rack at Rugby Road, where three large tanks have been erected, to Louisville refineries.

Tinsley's Bottom

In the Tinsley's Bottom area of Clay and Jackson Counties, Tennessee, the Dafoes started two new wells, one on the Rogers farm, one-quarter mile south of the Ben Hix, and the other on the discovery Williams farm. The Young Oil Co. is drilling No. 1 Arms at 120 feet; The Rex & Pyramid Oil Co. has staked off two locations on the Draper farm, adjoining the Dafoe wells on part of the same tract and has made arrangements for the drilling of a test at Bennet's Ferry, 2 miles north of the present producing area.

Dafoe's No. 1 Ben Hix, 1,500 feet southwest of the Swan well, is shut down at 600 feet; No. 1 Osgathorpe, 2 miles west of the Lynn wells, on Brimstone Creek, is fishing for tools at 640 feet; No. 3 Hamp Lynn, 1,000 feet north of No. 2, is nearing the pay and should be in next week. A. C. Edenfield is repored moving a rig to drill a test on the Spivey farm, across Cumberland River and 2 miles west of the Lynn.

Mississippi Activity

T. B. Slick's deep test on the Huffman farm on the Salem road near Holly Springs in Marshall County, Mississippi, has been spudded in. This test is being watched by scouts of the major companies. Stewart Sinclair, Russell Ryan, and Fred West, geologists, have made excellent reports in this vicinity and are of the opinion oil will be found in large quantities.

The Michael Zink well, in Section 6-11-1, near Westside in Claiborne County, is reported ready to test. The 8-inch casing was set at 1,435 feet. According to reports an oil showing was had at the present depth. The Bill Young well, in Section 5-11-2, same county, is reported actively drilling after setting surface casing.

The Finkbine Lumber Co.'s No. 2 test, in Section 7-3-4, near D'Lo in Rankin County, is drilling at 500 feet with rotary tools.

The Mississippi Oil & Gas Co.'s No. 1 Graham, Section 21-6-8, near Forest, in Scott County, is making slow progress on account of its great depth. It is now down 4,300 feet and in the Selma chalk.

The Reeder well, on the Insane Hospital property, in Section 25-6-1, near Jackson in Hinds County, is down 1,500 feet and drilling. This test is being visited every day by oil scouts.

The Marshall Oil & Gas Co.'s test 26 miles south of Jackson, is reported drilling below 1,850 feet. Two oil showings have already been encountered, the first a small one at 590 feet, and the second at 985 feet, which had a heavy gas pressure as well as a fine showing of oil. This venture is known as the county line test, as its location is right on the line between Hinds and Copiah Counties.

The Free Run well in Holmes County is being cleaned out, after which a test will be made and the hole drilled deeper. The hole is now down 2,068 feet with about 300 feet of open hole below the casing, where it is reported good for 2,000,000 feet of gas daily.

Casing is being set at 2,026 feet in the Charleston well in Tallatchie County. As soon as the hole is cased a test will be made of a sand encountered, said to be well saturated with oil.

Kentucky News

Development work in the Blue Grass State is lagging instead of increasing, due possibly to the uncertainty of market conditions. Oil in the east end of the State is bringing $2.30 per barrel, while the top price in the western half is but $2.05, with the single exception of Barren County, where the Somerset light prices prevail.

The recent completion of the Pennsylvania-Indiana Oil Synd. in the Owensboro Field, on the Colonel Powers place, 2 miles north and east of Whitesville, in Ohio County, is the most important well so far brought in in the entire State this year. It showed for 120 bbls. the first 24 hours and is easily the best well ever drilled in this section. This pool was opened last year by Nutty & Pyle, who drilled in an excellent pumper on the Swope Brothers farm, extending ropduction 2 miles to the south of the Herbert School House district.

Week's Work

A summary of the week's work in the Kentucky Field shows 38 completions, 26 of which are producers with a flush production of 379 bbls., 7 dry holes, 4 gassers and 1 abandoned hole. Compared with last week, this shows 4 more completions, 2 more producers, 109 bbls. less in intial yield, the same number of dry holes, 1 more gas well and one more abandoned hole. The wells were distributed by counties as follows:

County—	Comp.	Wells	Prod.	Dry	Gas	Abd.
Allen	7	2	72	3	0	1
Warren	4	4	54	0	0	0
Barren	4	4	42	0	0	0
Lawrence-Johnson	4	4	87	0	0	0
Floyd	4	0	0	1	3	0
Wayne	4	4	86	0	0	0
Lee-Owsley	4	1	7	3	0	0
Wolfe	2	2	9	0	0	0
Estill	1	1	2	0	0	0
Jackson	1	0	0	0	1	0
Flemming	1	1	5	0	0	0
Morgan	1	1	20	0	0	0
Johnson-Magoffin	1	1	15	0	0	0
Total	38	26	379	7	4	1
Last week	34	24	488	7	3	0
Difference	4	2	109	0	1	1

Allen County

H. A. Kiser's No. 2 Jones in the Frost Pool, southwest of Scottsville in Allen County, is the best completion for the week just past in the Western Kentucky Field. This well made 50 bbls. flush in the deep sand at 85 feet below the black shale. No. 1 on this same tract is also a 50-barreler. In the same area, R. A. McLain's No. 10 J. W. Frost is reported good for 20 bbls. from the deep pay at 110 feet below the shale. It was on this tract that the deep sand was first found which has resulted in the redrilling of a large number of old holes that were drilled to the first sand at 30 to 50 feet below the shale.

In the Wheat district, Bastrus and others got a 2-bbl, stripper out of No. 5 Carver at 285 feet, immediately below the shale. Barlow Brothers got a duster at No. 1 location on the Powers farm.

In the Mitchell area, J. W. Leach's No. 11 Carpenter-Dent was dry and abandoned at 200 feet.

In the Keen Pool, Neely, Lamp and others abandoned their third location on the Clack farm.

Wynn, Lowe and associates got a dry one in No. 16 on the E. L. Ayers farm, 9 miles west of Scottsville, in the Satterfield Pool, at 400 feet.

Warren County

The Ruby Consolidated Co. finished No. 6 Price-Hall in the McLemore-Gillespie-Price Pool for 20 bbls. at 1,156 feet, approximately 60 feet below the shale. This is the sixth straight producer for this company on this tract, which ranks with any in the field. The Gillespie lease, adjoining which is operated by J. M. Loman and R. B. Reba has 10 producing wells: The Bryant, 8; the Jess Shanks, 10; the Price, 6; the Gillespie 100 acres, 5; the McLemore, 7; the W. R. Hunton, 6; the Porter, 2; and the Smith, 6. This pool has proved to be equal to the famous Davenport Pool as to the regularity of the pay sands.

In the Browning sector, the Lucille Oil Syndicate got a 6-bbl. pumper in No. 6 Morehead at 1,136 feet, 90 feet below the shale.

Frank Fritz's No. 5 Dr. Moss in the Rockfield shallow field showed 7 bbls. on jack at 440 feet.

In the old Stone Quarry Pool, west of Rockfield, H. J. Dobson's No. 5 George Rigglewood is estimated good for 3 bbls. on power at 1,050 feet.

Drilling Activities

In the McLemore-Gillespie-Price Pool, P. H. Lavelle's No. 7 W. R. Hunton is showing salt water and oil in the shallow pay. Tubing is being run in the hole and the well will be given a thorough test. Ennis and others' No. 3 Porter is shut down at 500 feet; Cunningham & Henry's No. 9 Bryant is in the shale; Amfot Oil Corp.'s No. 11 Jess Shanks, drilling at 320 feet; Essex Oil Co.'s No. 6 Smith, drilling at 650 feet; McCombs Producing and Refining Co.'s No. 5 H. Rigglewood, drilling in the shale.

Rockfield district—Rockfield Oil Co.'s No. 4 Kimbro, being tested; Illinois-Kentucky Oil Syndicate's No. 1 Vernon Andrews, no showing in the deep pay and will probably be abandoned; Caskey & Pryor's No. 6 Price, drilling on top of the shallow pay; Roy Hogan's No. 1 Calvin Smith, south of the Dillard and Ford leases, drilling at 210 feet; Cadet Oil & Gas Co.'s No. 1 Dr. Lewis, drilling at 87 feet; L. C. Madison's No. 1

(Continued on Page 82)

Fields of the Central West

By Whit

FINDLAY, Ohio, April 27.—The Central West Field is about holding its own in development work and, outside of a few wildcat wells, drilling is confined to leases where offsets are being drilled, and where power plants and producing wells are already on leases.

Eight wells were reported completed in the old Lima Field of northwestern Ohio for the week, of which two were dry holes, the other six showing a flush of 120 bbls., which is very good for the old field. There were three old wells reported abandoned.

The test of Mack P. Colt and others, 225 feet from the north line and 400 feet from the east line of the William Miller farm, in the northeast quarter of Section 4 Center Township, Mercer County, and a short distance out of the oil town of Mendon, may bring forth some additional work in that long forgotten area. The well showed only 15 bbls., but is about as prolific as the average new wells found these days in the Trenton Rock Field. In Hopewell Township, Mercer County, the Home Banking Co.'s No. 4 well, 1,300 feet from the south line and 250 feet from the east line of the George F. Hellworth farm, in the southeast quarter of Section 21, produced 23 bbls. flush. In Gibson Township, in the Fort Recovery Field of the same county, E. C. Smith and others' test 800 feet from the south line and 200 feet from the east line of the J. Treschenan farm, in the southwest quarter of Section 22, came in a duster.

In Henry Township, Wood County, Agnetta D. Chidester's No. 18 in the northwest corner of her own farm, Section 3, was a duster at a depth of 1,460 feet, right in the heart of the famous Wood County gusher belt. In Freedom Township, same county, near Pemberville, the Ohio Oil Co. abandoned old No. 4 on the Charles Hiser farm, Section 23, and August F. Stein did the same with his No. 11 on his own farm, Section 27, same Township. In Lake Township, Charles F. Zeising and others are drilling a second test on the Bingham Brothers farm, Section 36.

While the Findlay Field of Hancock County reports no completions the past few days, several new wells have been started up. In Eagle Township, southwest of Findlay, Dave King, Jr., and others are drilling No. 16 Irwin Powell farm, Section 6. Porter & Hovis are drilling No. 16 Lem Aurand farm, Section 5; Star & Clark are working on their No. 3 Alice Stauffer, same section; J. M. Steen and others are drilling No. 28 E. N. Crozier, Section 7. S. Porter and others are drilling No. 3 J. W. McClelland, Section 7, and Fuller and others are going down with their No. 15 H. P. Smith farm, Section 18. In Orange Township, the Ohio Oil Co. is drilling No. 23 Elsa Stratton, Section 6, and

(Continued on Page 78)

THE BOVAIRD SUPPLY CO.

Tulsa, Okla.

MID-CONTINENT DISTRIBUTORS

For Superior Service

For Sale by { **The Bovaird Supply Co.** & **The Hinderliter Tool Co.**

—Stocks at—

Tulsa, Okla.
Sapulpa, Okla.
Bristow, Okla.
Beggs, Okla.
Slick, Okla.
Shidler, Okla.
Lyman, Okla.
Stroud, Okla.
Okemah, Okla.
Independence, Kans.
Winfield, Kans.

Pennsylvania-West Virginia

By D. S. Wakenight

Edward H. Everett Co.'s well in Hanover Township, Licking County, Ohio, swabs 55 bbls. Sun Oil Co.'s completion in Berea grit development, Morgan County, makes 25 bbls. Leeton & Zinn get 30-bbl. producer, Holmes County. Wehrles start test to Trenton Rock in Newark Township, Licking County.

PITTSBURGH, Pa., April 27.—In Section 15, Hanover Township, Licking County, the Edward H. Everett Co. has completed and shot in the Clinton sand, the first test on the Margaret Wilhelm farm. They swabbed 55 bbls. from the well the first 24 hours. The location is 700 feet east of the company's test on the Millard F. Romine farm. In Section 23, Perry Township, the Carter Oil Co. has started to drill another test on the John Sommerville farm. In Section 10, same township, it is drilling to the Clinton sand a second test on the Frank Phillips farm.

Berea Grit Producer

The Berea grit development on Morgan County continues to furnish an occasional producer better than the average. It is generally agreed the pool has been defined but there is still room for new work inside of defined limits. The latest completion is the Sun Oil Co.'s No. 8, on the C. E. Swytzer farm, located in Section 33, York Township. It is 600 feet southwest of No. 7 and good for 25 bbls. a day. In Section 22, Warren Township, Belmont County, O. A. Jones & Co. completed and shot in the Berea grit a test on the O. A. Jones farm good for 6 bbls. a day. This is three fourths of a mile east of the Ohio Fuel Corp.'s test on the Mary E. Parker farm. In Section 19, Lawrence Township, Washington County, Calvin A. Peavy & Co. are drilling on the Torrence Oil Co.'s lease. In Liberty Township, Beeson Bailey and others have started to drill No. 8 on the R. H. Heslop farm. In Fearing Township, Earl Stephens has a very light pumper in the Cow Run sand at No. 2 on the John Reynolds farm. In Muskingum Township, the Columbus & Marietta Petroleum Co. has a 5-bbl. pumper at No. 5 on the J. B. Devol & Co. farm.

In Section 23, York Township, Morgan County, 2½ miles east of production, the Worley Oil Co. completed and shot in the Bree grit its test well on the Daniel Schneider farm. It will not make better than a 2-bbl. pumper. In Newport Township, Washington County, W. C. Noland has drilled No. 3 on the W. C. Noland farm through the Mitchell sand, good for 2 bbls. a day. It is 500 feet southeast of No. 2. In Section 3, Hopewell Township, Muskingum County, the Mideast Co. has the rig completed for an initial test on the G. L. Starkey farm. In Section 15, Rush Creek Township, Fairfield County, the Flagdale Oil & Gas Co. has a duster in the Clinton sand at No. 15 on the Graffis heirs farm. In Section 22, Richland Township, Sturm & Co.'s test on the Harry Crist farm is dry in the Clinton sand. In the same Township, the Rush Creek Oil & Gas Co. is drilling a second test on the Robert Hyde farm.

In Section 5, Monroe Township, Holmes County, the Rocky River Development Co. is drilling in the sand at a test on the W. R. Parsons farm.

In Richland Township, Section 28, Fairfield County, the Rush Creek Oil & Gas Co. has completed in the Clinton sand a second test on the Robert Hyde farm, not good for more than 5 bbls. a day. In Section 25, Harrison Township, Knox County, A. J. Weidman & Co. completed and shot in the Berea grit a second test on the John M. Purdy farm. It is a light pumper in this formation. In Section 13, Bowling Green Township, Licking County, Whitehill & Zohniser are drilling another test on the George M. Bowers farm.

In the southwest quarter of Section 11, Jackson Township, Perry County, the Southern Oil Co. has abandoned its second test on the Thomas H. Welch farm. After drilling to 925 feet and finding nothing it was decided to abandon it. In Lot 4, Madison Township, Licking County, the A. H. Heisey Co. completed in the Berea grit its test on the G. H. Bolin farm, a gasser good for 200,000 feet. A second test on the same farm has been started, 500 feet east of the first.

In Section 2, Franklin Township, Licking County, Moore & Adams completed in the Berea grit No. 10 on the T. L. Stevens farm, a 2-bbl. pumper. In Newton Township, Jones & Reese completed and shot in the same formation, No. 13 on the James McKinney farm. It has considerable gas and spraying a little oil. In Lot 14, Hanover Township, the Carter Oil Co. has started to drill to the Clinton sand its No. 4 on the Jacob Vanderbark farm.

Will Drill to the Trenton

In Lot 6, Newark Township, Licking County, in the Trenton Rock development near Newark, W. W. & A. T. Wehrle have the rig completed for a second test on the Zartman heirs' farm. This well will be drilled to the Trenton Rock and is 400 feet east of the first Trenton Rock test on the W. W. & A. T. Wehrle farm. In this locality so far as known it is the only well starting or drilling with the Trenton Rock formation as the objective. In Lot 4, Hanover Township, M. F. Whitehill has the rig completed for another test on the James B. Simpson farm, 600 feet south of the Carter Oil Co.'s No. 3 on the Jacob Vanderbark farm. In Lot 5, Franklin Township, Bishop & Hazlett are drilling No. 3 on the Martha J. Outridge farm.

In the northwest quarter of Section 22, Starr Township, Hocking County, the Preston Oil Co. completed in the Clinton Sand No. 15 on the Hamilton Brothers' farm, not good for more than 5 bbls. a day. In Section 14, Knox Township, Columbiana County, the Coraopolis Savings & Trust Co. completed and shot in the Berea grit No 15 on the A. L. Soffer farm. The well produced 10 bbls. the first 24 hours.

West Virginia

On Poca Fork of Little Sandy Creek, Elk district, Kanawha County, 1,200 feet southwest of the United Fuel Gas Co.'s test on the H. D. Withrow farm, the Oakland Development Co. has completed in the Big Injun sand a test on the M. C. Higginbotham farm, a gasser good for 200,000 feet. On the waters of Big Creek of Poca River, Walton district, Roane County, the Maxwell Oil & Gas Co.'s test on the Samuel Shafer farm, formerly a light oil producer in the salt sand, has been drilled to the Big Injun sand and dry. On McKowens Creek, same district, the United Fuel Gas Co. completed a test on the C. C. & M. D. Dougherty farm. It is a gasser good for 1,000,000 feet a day in the Big Injun sand.

Gas in Deep Test

In Union district, Harrison County, the Reserve Gas Co.'s deep test on the Chapman Smith farm got 700,000 feet of gas in the fifth and Speechley sands. It is now drilling a 12½-inch hole at a total depth of 2,893 feet. In Liberty district, Marshall County, the Manufacturers Light & Heat Co.'s second test on the J. R. Jones farm is a gasser in the Big Injun sand. In Smithfield district, Roane County, the Carter Oil Co.'s No. 5 on the Simmons heirs' farm is a gasser in the Big Injun sand.

Fair Pumper in Wood County

In Walker district, Wood County, Leeton & Zinn have put their test on the John Coplin farm to pumping. It produced 25 bbls. the first 24 hours. This is the best producer completed in Wood County for several months. In Lubeck district, Stout Brothers & Co. have completed in the Cow Run sand No. 3 on the W. S. Munchymer farm, good for 3 bbls. a day. In the same district, Carmichael & Rexroad have a very light pumper at a test on the C. Kruger farm. On Little Grave Creek, Union district, Marshall County, the Wasmuth & Callahan Oil Co.'s No. 3 on the Mary E. Reilly farm is not good for more than 3 bbls. a day in the Big Injun sand. In McElroy district, Tyler County, the Hope Construction & Refining Co. has drilled through the Big Injun sand a second test on the Hannah Merritt farm. It is a fair gasser. In Clay district, Ritchie County, the Pittsburgh & West Virginia Gas Co. is now through the Squaw sand at No. 5 on the J. R. & R. P. Marsh farm. It is a light gasser.

Good Gasser in Harrison County

In Elk district, Harrison County, near Romines Mills, the Grasselli Chemical Co. has drilled in a very good gasser, estimated at 4,000,000 feet, on the Shuttleworth heirs' farm. It has caused considerable excitement and leasing is quite active. There has been some test work completed in former years in that section but none near the size of the well just completed on the Shuttleworth heirs' farm. In Murphy district, Ritchie County, the Hope Natural Gas Co. has a light gasser in the Big Injun sand at a test on the M. V. Gill farm. The Carnegie Natural Gas Co. has a gasser in the Gordon sand at a test on the E. J. Fluharty farm, in Mannington district, Marion County. In Courthouse district, Lewis County, Roy Horner's test on the Mary V. Horner farm is dry and abandoned.

In Center district, Gilmer County, the Chartiers Oil Co.'s test on the G. D. Stump farm is a gasser in the Maxon sand. In DeKalb district, the Pittsburgh & West Virginia Gas Co. has a gasser in the same formation at a test on the J. S. Stalnaker farm. In Smithfield district, Roane County, the United Fuel Gas Co. completed a Big Injun sand gasser at a second test on the M. S. Simmons farm. In Geary district, the Cromwell Oil & Gas Co.'s test on the Rosena E. Rogers farm is a gasser in the same formation. In Union district, Ritchie County, the Hope Natural Gas Co. has now drilled its second test on the F. C. Goff farm through the Gordon sand and dry in all formation. Ray & Son have a Berea grit gasser at No. 3 on the C. Stewart farm, in Carroll district, Lincoln County.

On the waters of Trace Fork of Mud River, Curry district, Putnam County, the United Fuel Gas Co. completed and shot in the Berea grit its test on the Bryant-Johnson farm. It is a gasser not good for more than 50,000 feet. On Indian Creek, Grant district, Cabell County, the Walton Oil & Gas Co.'s No. 3 on the Benjamin Walton farm is a gasser in the Big Lime formation good for 300,000 feet. No. 4, on the same lease, is drilling. On Two-Mile Creek, Grant district, the Aetna Oil & Gas Co. started to drill a test on the Hyman-McCullough farm. On Big Searcy Creek, Scott district, Putnam County, the Charleston Dunbar Gas Co. has started to drill a test on the Wirt Paul farm.

On Leatherwood Creek, Big Sandy district, Kanawha County, the United Fuel Gas Co. has a gasser in the Big Injun sand at a second test on the Reamer-Brown farm, good for 500,000 feet. On Big Sandy Creek, Big Sandy district, the same company's test on the Townsend-Young farm is a gasser in the Big Injun sand, good for 1,100,000 feet. In Poca Fork of Little Sandy Creek, Elk district, Kanawha County, the United Fuel Gas Co. has the rig completed for a test on the C. E. Halstead farm. On Big Sandy Creek, the same company has a rig up on the S. V. Warbutton farm.

In Freemans Creek district, Lewis County, the South Penn Oil Co. drilled old No. 1 on the Burnsides heirs' farm to the Speechley sand, a total depth of 3,646 feet, showing for a light pumper. It is cleaning out and will be put to pumping. On Mother Run, a branch of Buffalo Creek, Mannington district, Marion County, the same company has drilled down from the Big Injun to the Gordon sand No. 8 on the John Lackshere farm. It is not good for more than 2 bbls. a day.

Starting and Drilling Tests

In Sardis district, Harrison County, Garrett & Lyons are building a rig on the M. A. Dennison heirs' farm. In Greenbrier district, Doddridge County, the Champion Oil Co. is still shut down at a test on the Isaac Eddy farm. In Union district, Harrison County, the Hope Natural Gas Co. is drilling at 3,200 feet on the G. N. Simmons farm. In Sheridan district, Lincoln County, the West Side Gas Co. is due in the Big Injun sand on the Mary Noel farm. In Carroll district, the Columbia Gas & Electric Co. is rigging up on the F. M. Vickers farm. In the same district, the Ray Gas Co. has spudded in on the Harry F. Hilbert farm. In Union district, the Superior Gas Co. is due in the Big Injun sand on the Viola Adkins farm. The Moore Rock Oil & Gas Co. is fishing for a string of tools in a test on the James Madden farm. In Guyandotte district, Cabell County, Darnell & Cottle are drilling at 3,175 feet on the Edward Galliger farm.

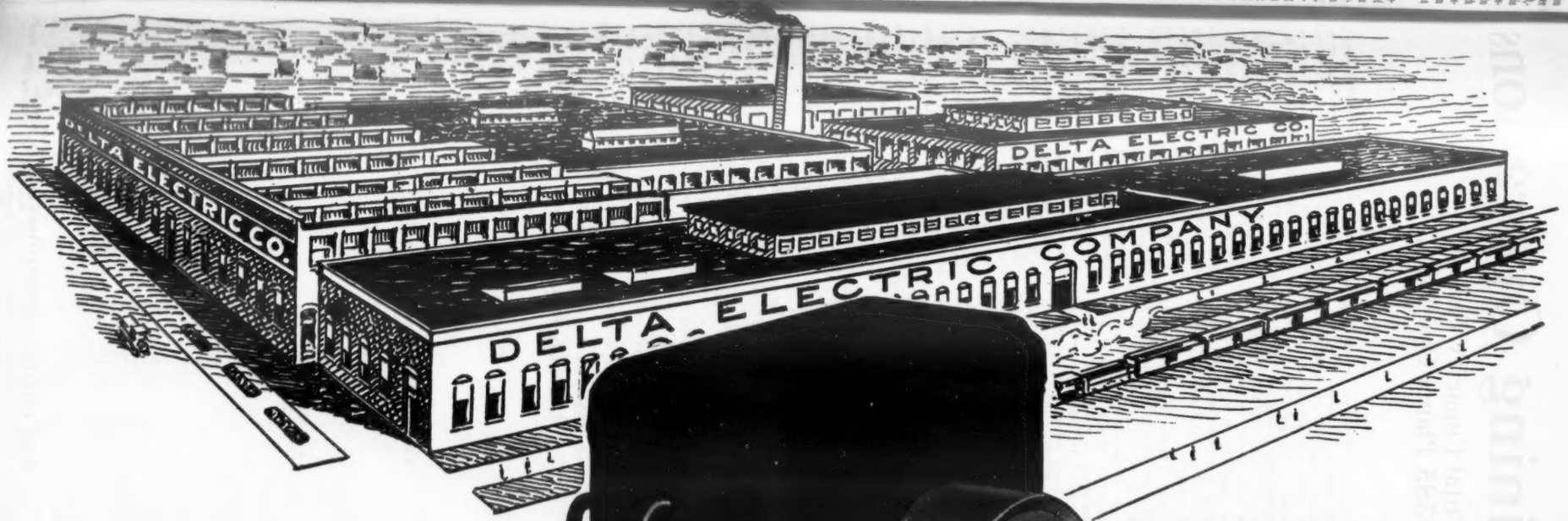
In Grant district, Ritchie County, John Leeton has completed a rig and moving in tools to a location on the C. Lowther farm. In Union district, the Wright Oil & Gas Co. has made a location on the P. T. Pride farm. West & Co. are drilling at 1,550 feet on the Frank Barrett farm, in Tygart district, Wood County. In Lubeck district, Stout Brothers and others are drilling at 710 feet on the Benjamin Sangs farm. In Sheridan district, Calhoun County, the Richter Oil Co. has started to drill on the B. S. Raybuck farm. In Burning Springs district, Wirt County, the Standing Stone Oil Co. has placed a drilling machine at a location on the W. R. Hays farm. In Simpson district, Harrison County, the Aizpurin Gas Co. has abandoned at 2,261 feet its test on the Nathan Richards farm. In Collins Settlement district, Lewis County, the Mud Lick Oil & Gas Co. is hauling rig timbers to a location on the George Arnold heirs' farm. The same company is hauling tools to a location on the Mary Bee farm, in Central district, Doddridge County.

On Broad Run, McClelland district, Doddridge County, Trainer Brothers & Ash are building a rig on the Malinda Scott farm. The Carter Oil Co. is building a rig on the Lloyd McIntosh farm. On Fink Creek, Gilmer County, the same company has the rig completed for a test on lease No. 2 of the I. M. Wilcox farm. On Fish Creek, Liberty district, Marshall County, the Hope Natural Gas Co. has the rig completed for another test on the I. G. Logsdon farm.

Doddridge County Tests

In southwest district, Doddridge Coun-

(Continued on Page 96)



DELTA

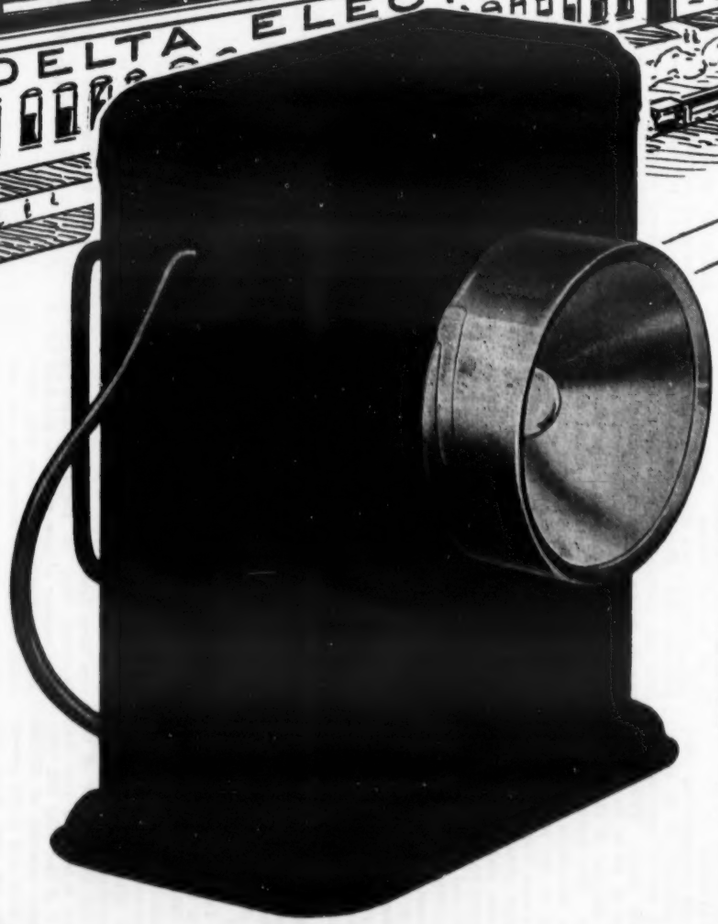
No. 10 Hand Lantern

Is

Approved

by the

Keenest Buying Brains in the Oil Industry.



You could search the world over and never find a better lantern for the oil field—

Uses two ordinary dry cell batteries which last for months.

You buy Economy, Safety and Service when you invest in a Delta.

$2.75 COMPLETE
Less Batteries

In Canada $3.70

At your supply house, or sent direct for $2.75, less batteries. Write for dealer discounts on Delta Flashlights and Batteries.

Delta Electric Company

110 Delta Block, Marion, Ind.

Standard Makers of Electric Lanterns, Auto Spotlights, Auto Ash Receivers, Motorcycle Spotlights, Bicycle Spotlights, Electric Bicycle Lamps, Radio Headphones, Flashlights and Flashlight Batteries.

New York City	Chattanooga, Tenn.	San Francisco
Export Dept.	Faucette Huston Co.	Sanford Bros.
30 Water St.		311 Minna St.

A Great Product Of A Great Institution

Little Change in Refining Operations

For First Time in Several Years Total Capacity Fails to Increase. Annual Survey Shows 385 Plants Operating

By C. O. Willson

For the first time in several years total refining capacity in the United States based on crude runs to stills failed to show a yearly increase according to the annual survey of refinery operations just completed by The Oil and Gas Journal. In contrast to the years 1922 and 1923 during which daily refining capacity increased approximately 1,000,000 bbls. due to the construction of new refineries and the enlargement of plants already in operation, the year 1924 and so far in 1925 has witnessed very little construction which added to the total amount of crude the plants were able to refine.

As shown in the accompanying table there were 584 refineries in the United States on May 1 with a total capacity of 3,033,682 bbls. daily. This represents an increase of 10 in the number of plants but a decrease of 13,108 bbls. in daily capacity. This decrease in capacity despite an increase in the number of plants is due to the fact that the capacity of the plants dropped from the 1925 list more than offset the additional capacity of the new plants. Practically all the new refineries built since the 1924 survey of The Oil and Gas Journal were small plants supplying a local trade and of little significance when the total refining capacity of the United States is under consideration. A few of the plants dropped in this year's survey due to the fact that they had been dismantled had a capacity in excess of 3,000 bbls. daily.

Although the total refining capacity of the United States decreased slightly, the number of plants actually in operation increased from 382 on May 1 of 1924 to 385 on the same date this year. The capacity of these operating plants increased from 2,666,890 bbls. on May 1 of last year to 2,680,052 bbls. at the present time. This increase of 13,162 bbls. in the capacity of the operating refineries is practically the same as the increase for all plants including those shut down or building.

This means that the capacity of the shut down plants is less this year than last. On May 1 of last year 192 refineries with a total capacity of 377,900 bbls. were shut down and at the present time 199 plants are shut down with a capacity of 353,630 bbls. daily.

Logical Development

The fact that the potential refining capacity of the United States has not increased during the past year is a logical development of several basic conditions existing within the oil industry. In the first place a reaction to the excessive building of 1922, 1923 and the early part of 1924 was to be expected. Refining capacity at the end of this building period was approximately 50 per cent greater than the daily crude production, and to that extent represented a surplus which had no industrial justification. Because there was not enough crude to supply all and because the tendency has been in recent years to refine more products that the consuming markets can readily absorb, this excessive capacity has worked an unnecessary hardship on the refiners and the industry generally.

Refiners at last realizing this situation have devoted their energies to increasing the efficiency of their plants rather than adding to the capacity and at the same time very few new plants have been constructed. The trend toward greater efficiency is partially indicated in the accompanying table which shows an increase in the number of refineries having cracking plants. On May 1 of this year 170 refineries had cracking units, an increase of 9 in the total number of plants.

This increase in the number of plants having the cracking installations only tells part of the story of the trend toward greater output of gasoline and other light end products. Most of the installations of cracking processes made during the past year have been at refineries which already had one or more units in operation. This fact is not reflected in the accompanying table.

More Cracking Units

One company owning a process almost doubled the number of its installations although only two refineries were added to its list of licenses. Many installations of one or two units were made in 1922 and 1923. Plant owners were skeptical and operated the units for several months before becoming convinced of their value. The trend during the past year has been to increase the number of units in line with the actual crude runs to stills of the skimming plant.

In addition to the cracking processes there have also been many improvements in the operation of skimming plants which have increased the output of gasoline. Many installations of towers and other equipment to secure better fractionation have been made.

Just what results have been accomplished is clearly indicated in the Bureau of Mines report. Although total refining capacity has not increased the refiners have been able to handle more crude. Based on the operations of 265 operating refineries including practically all of the larger plants, gasoline output in 1924 increased 18.25 per cent over 1923. Kerosene output increased 7.04 per cent; gas and fuel oil, 11.17 per cent; lubricating oils, 4.96 per cent, and wax 10.38 per cent. This clearly shows what the refining industry has been able to accomplish without adding to the already excessive refining capacity.

One other situation which has had its influence in refinery construction has to do with the fact that there were no new large fields discoverd outside of the Wortham Pool in Texas. Usually a large number of new refineries are built with the opening of a new field, especially if pipe line connections are not adequate to handle the large flush production. The new pools in California in 1923 largely accounted for the great increase in refining capacity in the United States during that year.

Few New Pools

The Wortham Pool in Texas did not result in the erection of a single refinery, except a portable plant, due to the fact that it was located in an area where pipe line facilities more than took care of the production and transported the crude to other parts of Texas where the crude was needed by refineries already established. Some of the crude was moved to Atlantic Seaboard refineries.

The influence of new fields is shown in the fact that New Mexico now has three small skimming plants in operation. No plants were reported from that State last year. Although the present capacity of these plants is of little consequence, New Mexico, Montana and Colorado are the three States which will probably have the greatest number of new plants in the future provided the new fields opened up prove as productive as many believe they will. Outside of these two States the present refining capacity or pipe line facilities of every State are more than adequate to handle the crude production. This probably means that any increase in crude production in these States will be taken care of by enlarging the capacity of the plants already in operation or starting those shut down at present.

In approximately 85 per cent of the cases the plants shut down at present had the same status last year. As was explained last year when the 1924 survey was made, a majority of these plants have been shut down from one to six years and probably will never be operated again regardless of any changes that may occur in the refining branch of the oil industry.

Many have passed through several hands and their present owners are not connected with the oil business and have no intention of operating them. Several were dismantled during the past year and equipment of any value has been salvaged at others. It is probable that another year many more of these plants will be dismantled so that future lists of plants will show a constantly decreasing number of plants, regardless of future increases in total refining capacity.

Runs to Stills

There were few changes during the past year in the crude run to stills of the major refinery organizations. Such companies as the Standard Oil Co. of California, Standard Oil Co. of New Jersey, Standard Oil Co. of Indiana, Magnolia Petroleum Co., The Texas Co., Humble Oil & Refining Co., and the Gulf Refining Co., reported practically the same refining capacity for this year's report as last year. The Sinclair Refining Co. started up its new plant at Marcus Hook, Pa., on April 1 of this year. This was the only change in the capacities of its several refineries except the East Chicago plant, which now has 22,000-bbl. capacity. The Marcus Hook plant was under construction for over two years.

Of the 30 States having refineries, 14 increased their refining capacity, four showed no change, with the remaining 12 having less capacity than last year. The States whose refining capacity increased were Arizona, Arkansas, Colorado, Iowa, Indiana, Montana, New Jersey, New York, Oklahoma, Pennsylvania, Tennessee, Texas, West Virginia and Wyoming. The percentage of increase was very small except in the case of Arizona and Montana. Montana almost doubled its refining capacity during the year. The present capacity of its 11 small skimming plants is 16,400 bbls. daily. Last year seven plants were reported with a capacity of 8,600 bbls. daily. Montana fields have no interstate pipe line outlet and none of the large major oil companies have refineries in the State. This fact has led to the building of several small independent plants.

Oklahoma shows a slight increase in refining capacity although six less plants are reported. There were no new plants constructed during the year, the greater capacity of the State being due to the enlarged operations of a few of the larger refineries. The new plant of the Houston Oil Co., located at Camden, accounts for the increase in Arkansas.

Texas, the State with the second largest refining capacity, also had a small increase in refining capacity with one additional plant reported. This State with 122 plants has the largest number of refineries. Four less plants were reported from California, with a decrease in total refining capacity of 6,500 bbls. Considerable difficulty was experienced in checking the operations of the California plants. Many have changed owners during the past year and the number actually operating decreased from 77 last year to 61 this year.

The refining industry there is experiencing the same situation which Oklahoma, Texas and large refining centers have gone through in previous years. A large flush production in 1923 resulted in the erection of a large number of small topping plants. The larger companies also greatly enlarged their plants. The latter have been able to maintain their operations at practically the same level as last year but the keen competition for a diminishing supply of crude has resulted in shutdowns at many of the smaller plants.

REFINERY OPERATIONS SINCE 1914

	Completed	Indicated Daily Capacity
1914	176	.....
1918	267	1,186,155
1919	289	1,296,115
1920	372	1,530,565
1921	415	1,888,800
1922	479	2,164,050
1924	574	3,046,790
1925	584	3,033,682

Note: The 1924 and 1925 reports were compiled by The Oil and Gas Journal and the remainder by Government bureaus.

TABLE 2—RECAPITULATION BY STATES MAY 1, 1925

State—	No. of Plants	Capacity	No. Plants Oper'ng	Operating Capacity	No. Plants S. D. or Bldg.	S. D. Capacity	Crack'g Total	Crack'g Proces— Op.	Crack'g Proces— S. D.
Arizona	3	2,000	2	2,000	...	.....	...	...	...
Arkansas	19	40,250	11	33,500	8	6,750	7	6	1
California	84	756,350	61	707,650	23	48,700	11	10	1
Colorado	4	2,350	3	2,100	1	250	1	1	...
Georgia	1	5,000	1	5,000	...	.....	1	1	...
Illinois	15	89,750	10	74,250	5	15,500	9	9	...
Iowa	1	2,000	...	.....	1	2,000	1	...	1
Indiana	7	74,810	3	70,010	4	4,800	4	3	1
Kansas	36	131,200	22	113,000	14	18,200	14	13	1
Kentucky	16	23,090	12	21,240	4	1,850	5	5	...
Louisiana	28	205,330	14	176,830	14	28,500	8	6	2
Maryland	4	46,200	4	46,200	...	.....	4	4	...
Massachusetts	3	60,000	3	60,000	...	.....	3	3	...
Minnesota	1	1,000	1	1,000	...	.....	...	...	...
Mississippi	2	5,250	1	250	1	5,000	...	...	...
Missouri	5	18,500	2	13,500	3	5,000	2	1	1
Montana	11	16,400	9	14,100	2	2,300	1	1	...
New Jersey	11	251,500	9	245,500	2	6,000	7	7	...
New York	6	33,800	4	33,500	2	300	3	3	...
Ohio	15	49,100	14	48,500	1	600	7	3	4
Oklahoma	97	354,550	51	251,200	46	103,350	24	20	...
Pennsylvania	64	161,180	53	155,800	11	5,380	22	22	...
Rhode Island	1	5,000	1	5,000	...	.....	...	...	...
South Carolina	1	10,000	1	10,000	...	.....	...	...	...
Tennessee	3	1,825	1	125	2	1,700	...	...	...
Texas	122	559,730	72	465,980	50	93,750	24	20	4
Utah	2	4,800	2	4,800	...	.....	2	2	...
Virginia	1	5,000	1	5,000	...	.....	...	...	...
West Virginia	6	14,700	6	14,700	...	.....	2	2	...
Wyoming	15	103,017	10	99,317	5	3,700	9	8	1
Total	584	3,033,682	385	2,680,052	199	353,630	170	151	19

TABLE EXPLAINING ABBREVIATIONS USED IN TABLES

Complete Plant (Comp.)—Gasoline, Kerosene, Gas and Fuel Oils, Lubricating Oils, Paraffin Wax, Petroleum Coke, Asphalt or both Coke and Asphalt.

(Continued on Page 70)

The Dubbs Cracking Process is the Rotary Drill of the refining industry, but without limitations or restrictions as to the (s)oil on which it operates It has no limitations or restrictions—and the Dubbs Process has never drilled a dry hole

It delivers the biggest stream of gasoline whether operating on gas oil, fuel oil or topped crude, at the lowest cost per barrel

Nothing else counts

Universal Oil Products Company
Owners of the Dubbs Process
310 South Michigan Ave
Chicago Illinois

MEN KNOWN IN OILDOM

E. L. Peck

E. L. Peck, who was elected president of the Association of Natural Gasoline Manufacturers at its annual convention last Wednesday and Thursday, is a man of experience in the oil business, not only in the natural gasoline end but also in every other branch, especially engineering and construction work.

Mr. Peck now is manager of the Empire Gasoline Company at Bartlesville, which position he has held since 1920 following his promotion from a position as construction engineer. In addition to holding down a real man's job as manager of the Empire Gasoline Company, Mr. Peck since 1921 has taken over the management of the automobile and truck service department of the company in the Mid-Continent.

Having held positions both in the Mid-Continent and on the Pacific Coast, Mr. Peck has been engaged in some phase of the oil business or oil engineering and construction work since 1913, following his graduation from Leland Stanford university. Following his leaving school in 1913 he worked for three years on the Pacific Coast in engineering and construction work for various oil companies and power companies. He came to the Mid-Continent in 1917, taking a position as construction engineer with the Empire company, with which company he has been since.

A graduate of Leland Stanford University Mr. Peck holds bachelor of arts and mechanical engineering degrees. Previous to entering the university, he went through the grammar and high schools at Pasadena, Calif.

Although he spent the greater part of his earlier life in California, Mr. Peck is a native of the Mid-Continent, having been born in Ness County, Kansas, where he lived until he was 7 years old, when his parents moved to California. He was born February 22, 1887.

Mr. Peck has been a member of the executive committee of the Association of Natural Gasoline Manufacturers continuously since the Empire company has been a member.

PERSONAL PARAGRAPHS

George Bryson has returned to Petrolia, Ontario, from the Colombia fields.

* * *

F. V. Hinkle, prominent Okmulgee producer, spent part of the week in Tulsa.

* * *

Bloss Sutherland and Duncan McIntyre left Singapore on March 27 for Petrolia, Ontario.

* * *

S. M. Blevins, one of the best known scouts in the Mid-Continent Field, is ill in the hospital at Claremore, Okla.

* * *

W. P. Guiberson, of the Guiberson Corp., is a Wyoming visitor in the interests of his firm.

* * *

Charles Keith and Frank Smith left the Persian oil fields March 22, en route for Petrolia, Ontario.

* * *

H. H. Seddicum, land man of the Tidal Oil Co. at Okmulgee, Okla., was a Tulsa visitor last week.

* * *

C. A. Olson, of the Sterling Condenser section of the American Radiator Company, was married last week.

* * *

Fred Reames, of the Windsor Oil Co. of Okmulgee, spent a few days in Tulsa transacting business for his company.

* * *

F. E. Tegler, of Hunter & Tegler, left San Antonio for a trip to New York. He expects to be gone a couple of weeks.

* * *

Bonneau Peters, chief scout for the Standard Oil Company of Louisiana, is in the hospital at Shreveport, La., undergoing an operation.

* * *

E. L. Martin, of Pasadena, Calif., is leaving this week for an extensive trip through Europe. He will sail from New York on the S. S. George Washington.

* * *

Word has been received in Petrolia of the birth in Negritos, Peru, on March 26, to Mr. and Mrs. George W. Currie of the International Petroleum Co., of a daughter, Margaret Mary.

* * *

John Foley, southwestern representative of the Columbian Steel Tank Co., has taken larger quarters at 1306 Southwestern Life Bldg., to accommodate the Dallas branch office of his company.

* * *

Alfred Webb, who has been in Canada for the past year, will leave Petrolia about April 25 for Miri, Sarawak, to resume work for the Royal Dutch-Shell Co., with which he has been connected for 12 years.

* * *

F. A. Young, veteran oil operator who opened up the Youngstown Pool, near Okmulgee, Okla., and who now resides in Ponca City, Okla., was a visitor in Tulsa last week. Mr. Young is operating in the Tonkawa Field.

* * *

P. P. v. Prandstetten, director of the Vacuum Oil Co. S. A., in Poland, with headquarters in the city of Nadworna, is making a tour of the Mid-Continent fields, studying American methods of oil refining and natural gasoline manufacturing.

* * *

Waite Phillips, head of the Waite Phillips Company, and Henry McGraw, vice president Gypsy Oil Company, have returned to Tulsa after a visit with the members of the Phillips Petroleum directorate who were touring the Mid-Continent oil field.

* * *

B. F. Bart has been placed in charge of the office established in Los Angeles by the A. O. Smith Corporation to care for California oil business. Mr. Bart for the past five years has been New York district sales manager of the Standard Seamless Tube Company.

* * *

W. C. Thomas, for the past four years superintendent of drilling for the Humble Oil & Refining Co. in the coastal region, has resigned to accept a similar position with the Vacuum Oil Co. The Vacuum Co. is building up a production department and has production in the new Liberty Pool, Texas, and at Lockport, La.

* * *

Henry M. Dawes, president of the Pure Oil Co., has been making an inspection of the company's plant south of Beaumont, Tex. He had with him C. B. Watson of Columbus, Ohio, vice president; Paul Gage, vice president, Dallas; Charles Fitzgerald, general manager of the pipe line department, and L. H. Scott, vice president of the Southwestern Gas & Electric Co., Shreveport. Mr. Dawes, who has not visited Beaumont for 19 years, stated that he was merely on a tour of inspection, since he took over the executive offices only on January 1. Mr. Watson announced they would add to the light oil stills, increasing the gasoline production approximately 5,000 barrels.

* * *

Sir Herbert Holt, head of the Royal Bank of Canada, has returned to Toronto after a visit to South America. It is understood his visit was largely in connection with the Andian National Corporation, which is building a pipe line from the Magdelena River, in Columbia, to the coast, to pipe International Petroleum Company crude to the seaboard.

* * *

H. H. Maddren has become manager of production for the Richfield Oil Company and the United Oil Company, both of California. Mr. Maddren is a production man of wide experience covering a long service in many fields. At one time he was manager of field operations in Wyoming for the Prairie Oil & Gas Company. He has had considerable service in foreign fields.

* * *

E. P. Campbell, of Denver, supervisor of the Rocky Mountain region of the United States Bureau of Mines, and F. B. Tough, chief petroleum technologist for the United States Bureau of Mines, with Washington headquarters, are expected to pay the Casper and Salt Creek offices of the Bureau a visit for several days.

* * *

Chal L. Daniels, who was associated with Dr. Bussey in the discovery well at El Dorado, Ark., and who has for several years been operating in the Texas oil fields, has been lured back to the Arkansas fields by the Smackover boom, and will operate in that district. Mr. Daniel is president of the Rowe-Daniel Petroleum Company, with headquarters at Fort Worth, Tex.

* * *

Two nationally known men in the petroleum world are rapidly recovering from recent illnesses. T. J. Donoghue, first vice president of The Texas Company, is at Marlin, Tex., for treatment for rheumatism, and R. V. Hanrahan, president of the Humble Pipe Line Company, is in a Houston hospital, convalescing from an operation for appendicitis. Both are residents of Houston, with a wide circle of friends in all parts of the country.

* * *

Robert A. John, former general attorney for The Texas Company, has been promoted to the new office of assistant general counsel with headquarters at Houston, Tex. T. L. Lawhon, assistant general attorney, was promoted to general attorney. Mr. John has been in Houston for 15 or 20 years. He formerly lived in Georgetown, Tex., and was assistant State Attorney General. Mr. Lawhon came to Houston about 12 years ago from Taylor, Tex. He was county judge of Williamson County, Texas.

* * *

Frank Kirk, who is in charge of the survey work for the Houston Pipe Line Co., a subsidiary of the Houston Oil Co., of Houston, which has started work on gas lines from near Edna, Jackson County, to Gulf, Matagorda County, and from Live Oak County to Houston, has returned from a visit with his family at Forth Worth, Tex. Mr. Kirk is a native of Ohio, who has done survey work on most of the trunk pipe lines in the Southwest and on the long Sinclair line from Wyoming to Nebraska. He has also engaged in similar work in Mexico.

* * *

C. C. Blackman, of Port Arthur, is visiting at the general offices of The Texas Co., in Houston, Tex. He is one of the pioneer refinery men and carries his 80 years as lightly as most men do 55 or 60. He has been connected with the industry since the earliest days back on Oil Creek, retiring last year at his own request as manager of the West Dallas (Tex.) plant of The Texas Co. From his home at Port Arthur, Tex., Mr. Blackman sees giant tankers, carrying 100,000 or more barrels of refinery products or crude, moving out to sea and his memory goes back through the years to when crude was moved in small barges on Oil Creek and the Allegheny River. He is one of the few surviving links between the industry in its infancy and its present day magnitude.

ANNOUNCING

Opening of the

OKLAHOMA CITY

Branch Plant of

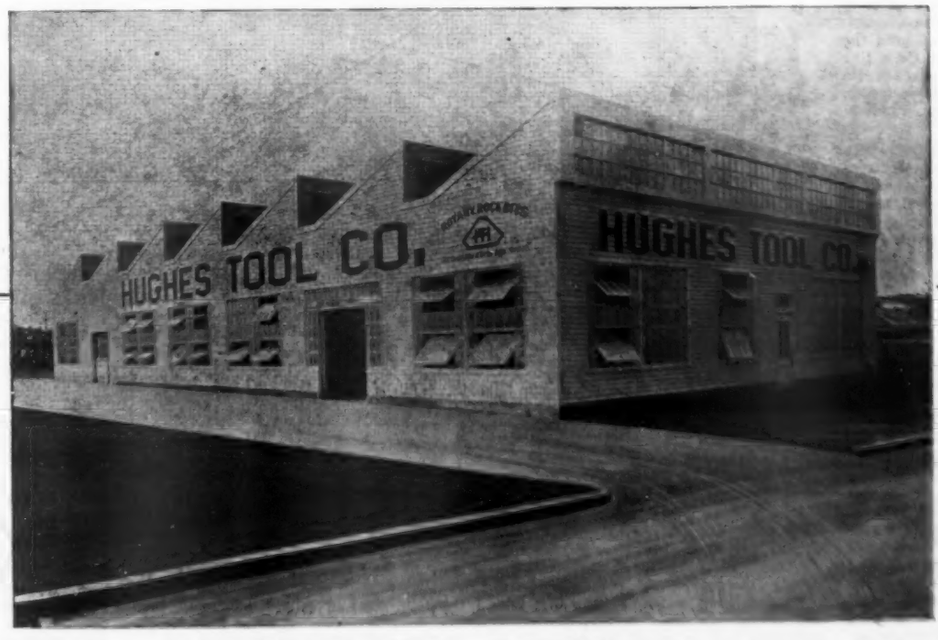
HUGHES TOOL COMPANY

to Better Serve the Mid-Continent Operators

Branch Plants
Los Angeles
Oklahoma City

MAIN OFFICE AND PLANT
HOUSTON,
TEXAS

Export Office
New York City



NATURAL GAS DEVELOPMENTS

GAS BENEATH DAKOTA, NORTHEASTERN UTAH

The Utah Oil Refining Co.'s test on Ashley Creek Dome, Uintah County, northeastern Utah, which found a large flow of gas at 1,685 feet in a horizon below the Dakota formation, is the first of importance in the eastern Utah plateau region.

The gas, estimated at 60,000,000 feet, is believed to be coming either from a sand in the base of the Morrison formation or from the top of the Sundance in the Jurrasic system. The Morrison is the formation below the Dakota and beneath it and above the red beds is the Sundance.

The well is approximately in the center of the SW¼ of Section 25-5s-22, about 20 miles west of the Colorado-Utah line, southeast of Vernal, 95 miles west of Craig, Colo., and 35 miles northwest of the Midwest gasser on the Rangely Dome in Rio Blanco County, Colorado.

The test had a show for 1,000,000 feet of gas at 650 feet. At 900 feet there was also a show of oil, with about 15 bbls. of water. The upper showing had been shut off but the gas and water broke in behind the 10-inch casing. Three stratas showing some gas were cut before the drill entered the horizon yielding the present flow. The location is too remote for any commercial use of the gas but the strike proves the structure to be sealed below the Dakota formation and opens the way for a test to the Pennsylvania which is expected to yield black oil.

PIPE LINE FOR TYLER FROM WASKOM FIELD

Survey for a pipe line to supply Tyler and intervening towns with gas from the Waskom gas field of eastern Harrison County, Texas, franchise for which was granted Morefield and Strange of Shreveport by Tyler voters at a city election, will begin at once, W. H. Morefield said.

The line will be the third taking gas from the Waskom district, the other two being Magnolia Gas Co.'s lines from Cotton Valley, Webster Parish, Louisiana, to Beaumont via Waskom, and the Southwestern Gas & Electric Co.'s line supplying Shreveport with part of its fuel. It will be an 8 and 10-inch line 65 miles long and will cost approximately $800,000.

Morefield and Strange have 100,000,000 feet of gas per day available from their own production, all of which is from the shallow sand and when gas is turned into the mains at Tyler they will drill three wells to the deep sand, drawing on the shallow sand for summer consumption and on the deep to supply the heavier winter demand.

It is expected that the line which will also supply Longview and a number of smaller intervening towns, will be completed and ready to hook to the Tyler distributing system by September 1.

NOT TO GET MONROE GAS

NEW ORLEANS, La., April 25.—The sewerage and water board practically abandoned the attempt to pipe natural gas to New Orleans from the Monroe Fields. The board had appointed a special committee of three—Commissioner Paul H. Maloney, Nicholas Callan and Hunt Henderson—to study the feasibility of the natural gas project, and this committee in turn engaged John L. Porter, engineer, to make a full investigation. He reported that the scheme was impracticable, and the committee accepted his views.

LEGAL CONTROVERSY OVER CARBON PLANT

LITTLE ROCK, Ark., April 27.—Possibility of legal controversy is seen by Senator S. B. McCall of El Dorado following the announcement by the Arkansas Railroad Commission of the beginning of construction of a large carbon black plant at Camden by B. F. Reeves and associates of that city.

Construction of the plant, Senator McCall said, is in direct violation of a law passed by the last legislature prohibiting the utilization of natural gas in the manufacture of carbon black.

The measure did not contain a provision allowing for permits already granted for the manufacture of carbon black. Mr. Reeves' permit was granted before the measure became a law.

Erection of the plant, however, was in opposition to the general purpose of the law, Senator McCall said, and it probably would require a legal decision to determine the issue if any objection should be brought against the building of the plant.

Mr. Reeves received approval from the Railroad Commission on January 15, 1924, to build his plant. The permit also included the building of a gasoline absorption plant. It was renewed twice when the original time limit had expired. When the commission informed Mr. Reeves that his permit would be canceled if actual construction had not been started before the permit expired, he notified it that 112 acres had been purchased near Camden and building of the plant had been started April 11, five days before the permit expired.

GAS CONSUMPTION LESS

SHREVEPORT, La., April 25.—Consumption of gas in the Monroe Field shows a marked decline during the past two weeks. According to a report issued by the Department of Conservation, consumption for the week ending March 27 was 2,325,959,000 feet; 300,000,000 feet less than during the first week in March.

CARBON PLANTS BUSY

RISING STAR, Tex., April 25.—The Peerless Carbon Black Co., several miles west of here, is operating full time. The company is erecting a new warehouse to store its products. The Western Carbon Co. has also started operation. These plants have just been built and are the only carbon black plants in Eastland County.

GAS ENACTS STORM SCENE

EL DORADO, Ark., April 25.—One of the Lion Oil & Refining Co.'s wells in Section 9-16-15, in the Smackover district, blew out and formed a crater 40 feet across. The crater filled with salt water and the force of the gas lashed derrick timbers and drilling materials about with the fury of a storm at sea.

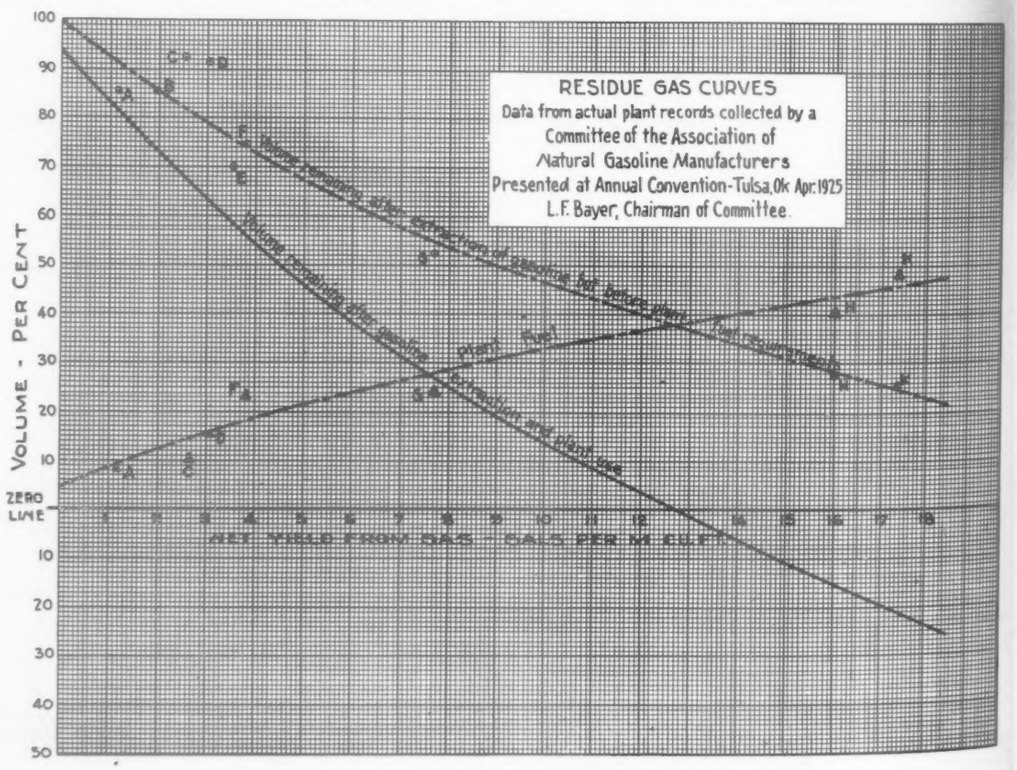
WASHINGTON, PA., STORM LOSS

WASHINGTON, Pa., April 25.—A checkup of damage inflicted by the recent cyclonic windstorm which swept this district reveals that oil and gas properties alone in Washington County suffered losses aggregating $75,000. Scores of derricks and frame buildings were wrecked.

GREENE COUNTY GASSER

WAYNESBURG, Pa., April 25.—A gas well drilled by the Carnegie Natural Gas Co. on the Forest Murdock farm in Whitely Township, is reported to be making 1,000,000 feet daily. The strike was made in the Grantz sand. The rock pressure is 900 pounds.

Residue Gas Supply for Gasoline Plant Operations


RESIDUE GAS CURVES
Data from actual plant records collected by a Committee of the Association of Natural Gasoline Manufacturers
Presented at Annual Convention-Tulsa, Ok Apr. 1925
L.F. Bayer, Chairman of Committee.
VOLUME - PER CENT
ZERO LINE
KEY YIELD FROM GAS - GALS PER M CU FT

By L. F. Bayer
*Tidal Refining Co.**

In a number of fields in which natural gasoline plants are operating, the quantity of gas remaining after gasoline extraction and plant use is insufficient to supply the operating requirements of the leases from which the gas is originally taken. In order to keep the leases operating and to avoid the necessity of using rich gas as fuel, the deficiency may be made up by the purchase of dry gas delivered into the residue lines. Most contracts for casinghead gas, particularly those which have been executed more recently, provide for the return to the lease or leases in question, from the gas purchased, sufficient residue for operating purposes, up to but not more than the amount remaining, after gasoline extraction and proportionate plant use.

Ordinarily, when natural gasoline plants are first installed, the problem of residue gas supply is not present, as there is usually an excess above the operating requirements of the leases. This excess is frequently sufficient to permit its use in further drilling operations, or, in some cases, its sale to natural gas pipe line companies. The fuel requirements of the lease are usually higher when first developed than when operations are

(Continued on Page 131)

*Before Association of Natural Gasoline Manufacturers.

HEPPENSTALL

Bit and Jar Steel Ready for Shipment

DIAMOND —"H"— Bit and Jar Steel

Forged from acid open hearth ingots made from the highest grade raw materials, bottom poured, 20 per cent cold cut, with a large cross sectional reduction in forging.

Try Diamond "H"—compare results

HEPPENSTALL
Forge and Knife Co.
PITTSBURGH . . . . . PENNA.
Fort Worth, Texas Office:
1918 W. T. Waggoner Building

EQUIPMENT AND SUPPLIES

CHARLES D. LITTLE NEW VICE PRESIDENT

At a meeting of the board of directors of Crane Co., recently, Charles D. Little was elected vice president in charge of sales and also a member of the board succeeding the late E. H. Raymond.

H. W. Seymour, Crane branch manager at Baltimore, was elected general manager of sales to succeed Mr. Little. Walter Evensen was elected treasurer, P. T. Kelly continuing as vice president in charge of finance.

Charles D. Little

ENGINEERING PRODUCTS PLAN

The Walworth Manufacturing Co., of Boston, announces the formation of the engineering products division, to cooperate with the engineering, production and sales departments of the company on the development and distribution of the new Walworth Sigma steel valves and fittings for power plant and oil refinery service. John M. Olmsted has been appointed manager of the division, with headquarters in Chicago, and Fred W. Duemler, assistant manager, located in New York.

INNOVATION IN WRENCHES

The Armstrong Brothers Tool Co. has distributed a folder pointing out the advantages of its new product, the Armstrong-Stillson pipe wrench. In the new wrench the objectionable old style nut housing has been entirely eliminated. This is an innovation in the manufacture of pipe wrenches, and removes the annoying tendency of nut housings to gum up and clog.

PREPARING METAL FOR PAINT

The Eagle-Picher Lead Co. has issued the spring number of the Painters Eagle, an attractive periodical in colors, devoted to the advancement of the interests of painters, paint dealers and jobbers. A very short but meaty article by Henry Schubert entitled, "Preparing Metal for Painting," in the book is worthy of attention.

ILLUSTRATES INSTRUMENTS

Buff & Buff Manufacturing Co. has issued a folder illustrating some of the engineering projects upon which its instruments were used. One of the interesting cuts in the folder is a cross-section of the New York-New Jersey vehicular tunnel completed last fall.

STEEL CONSUMPTION RATE HOLDS WITH PROSPECT OF CONTINUING

By B. E. V. Luty

PITTSBURGH, Pa., April 27.—The general tone of the iron and steel market is depressed somewhat further this week. There is not much change from week to week, but the market has been on the down grade now since about March 1. This seems to be a more or less permanent fact, and the main point about it now is that the recession is a very gradual one, entirely different from that of just one year ago, when there was the most remarkable slump in steel trade industry, both in buying and in production and shipments.

There is just as conservative sentiment now as there was then, except that in certain lines, particularly bars, shapes, plates and sheets, prices are lower and thus buyers are taking less risk. There has been equally heavy production this time. The fact that business has been tapering off gradually instead of slumping seems to indicate pretty clearly that actual ultimate consumption has been running at a higher rate lately than a year ago. In general, prospects as far as they can be seen are for the recent rate of steel consumption to continue.

As appearances now are that there are no large stocks in buyers' hands to be liquidated, the indication is that steel production, while declining, will make a large total for the year as a whole, very probably exceeding that of last year and possibly exceeding that of 1923, which had the largest steel production of any year since the war, and almost equaled the best war year.

Varying Trade Conditions

Circumstances, of course, differ somewhat in the various consuming lines. There is tin plate, for instance, which has been presenting a better prospect in the past couple of weeks than was expected two months ago, while there are oil country tubular goods, which are not doing as well as expected. In building operations, house bulding is not running as well as last year, while in large structures involving skeleton steel construction there is little improvement. Fabricated steel contracts reported in the past five weeks as let make an average 5 per cent above the average in the first ten weeks of the year.

Pipe mill operations are estimated at about 70 per cent, the same as a week ago, and comparing with an average of about 90 per cent in February. Conditions, however, are not altogether so good as a week ago in the matter of demand. There has been a little tapering off in buying of merchant pipe by jobbers during the past two months, and some of that is noticeable in the past week. In oil country goods, buying has not increased as much in the past two months as it would be expected to do in keeping with the season, and now there seems to be a little tapering off.

Shading Prices

In the case of merchant pipe, the jobbers have had pretty fair sized stocks, though not really large stocks, and they are now showing a strong disposition to liquidate, both by making stronger efforts to sell and by buying more guardedly. There are many reports now of jobbers shading prices in order to liquidate. While the shading is by no means general, and is done only on special lots, it seems to prevail in many sections. The pipe jobbers are naturally impressed by the fact that pipe prices are still on the 62 per cent basing discount reached over two years, ago, while so many steel lines are now much cheaper than then, and so, while there are no predictions that mill prices will decline, there is always the possibility of an accident.

In oil country goods buyers are evidently impressed with the increasing oil production this year and are moving much more cautiously than a year ago.

Finished steel prices show very little change from week to week, there being merely a little weakening in one line or another. Black sheets are distinctly weaker than ten days ago, not a few sales being made at under 3.40c, so that the market is now quotable at 3.35c to 3.50c.

Pig iron prices are off about 50 cents in the valley market, declines occurring even though there has been little inquiry to stimulate competition. The market is now quotable at $21 for Bessemer and $20 for basic and foundry.

Connellsville coke continues very dull, while scrap is a little easier.

NEW STYLE OF LINK TO SAVE FOREFINGERS

The Surface Equipment Co., of Tulsa, Okla., has recently applied for a patent on a new style "C" link for connecting shackle rods to the band wheel in lease power houses.

The more general use of this product, it is thought, may result in a decreasing number of lost forefingers among the pumpers of the oil fields. Just as faulty spudding shoes leave their mark upon the jaw-bone of the unfortunate drillers who

are in their path when they break, just so the old time "C" link continues to exact its toll in forefingers from the pumpers who make an error in timing the strokes when attempting to uncouple the rods in a hurry.

The outstanding feature of the new link is an overriding handhole which permits the rods to be uncoupled without regard to the lower part of the link. In uncoupling rods with this link, the fingers are always 3 inches above the rods.

Another feature of the new invention, it is pointed out, is the added strength in the shoulder, which is far wider than the ordinary link.

The new link is made of cast steel, and has a tensile strength of 48,000 pounds tested. At 36,000 pounds the link yielded one-quarter inch.

NEW BOILER BULLEIN ADDS TO INFORMATION

The Celite Products Co., of Los Angeles, Calif., has issued a new bulletin on the insulation of boilers. The bulletin is changed somewhat from previous issues, and contains additional information on the insulation of powdered fuel furnaces, and insulation of stacks.

It deals with the problem of radiation loss through furnace walls, and explains the wide variation in the loss attributed to radiation in typical heat balances for steam boilers.

Heat leakage with the resultant decrease in capacity and thermal efficiency is also discussed in the bulletin.

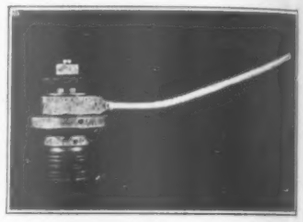
TANK AND STATION FOLDERS

The Leader Iron Works of Decatur, Ill., has issued two new folders. One devoted to truck tanks and truck tank equipment, and the other illustrating filling station equipment.

VALVE SEATING TOOL DESCRIBED AS SIMPLE

Application has been filed by W. J. Dickinson, Tulsa, Okla., for a patent on a new valve seating tool, designed to reseat all valves on tank cars, air compressors, pumps, gas or gasoline engines, etc., just placed on the market.

The operation consists only of placing the bottom of the tool into the valve opening until the cutters rest upon the face to be seated; screwing the nut on top draws the center tapered spindle up, forcing slips to expand underneath seat, thereby holding the tool secure and level.



By turning the hand feed nut to suit size of cut desired, the valve is seated in two or three minutes with the turning of the ratchet.

The old type flat faced positive valve in all old tank cars is being changed to a bevel seat, and the process of changing has been to jack up the tank and cut out the plate and valve which were sent to a machine shop to be bevel-seated and then replaced, a very costly process, necessitating a delay of three or four days. With the new Dickinson valve seating tool, it is said, only about 15 minutes of one man's time is required to bevel the seat where it formerly required two to three hours just to grind in the valves with emery paste. This tool reduces the time to a minimum of two or three minutes.

NOTES ADVANTAGES IN RIVETLESS CHAIN

An interesting book describing Link-Belt Rivetless Chain replete with illustrations has just been published by the Link-Belt Co.

The book portrays in a pleasing manner the assembly and dissembly of this simple chain, which has only three parts. The text matter is supported by tables of weights and strengths, and describes many of the uses to which this chain can be put.

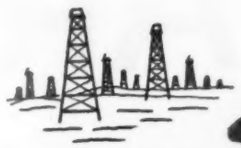
This chain may be used to advantage on all types of conveyors and elvators: its light weight and great ultimate strength make it ideal for extremely long conveyors, where the load is heavy and the weight of the chain an important consideration. The anthracite coal industry has used this chain for many years, and its success in this industry has served to bring the attention of other industries to these features.

INTERESTING BOOKLET

The F. E. Meyers & Bro. Co., manufacturers of pumps, have issued an interesting booklet entitled "How to be Happy Tho' Married," which is of interest to the annual spring crop of prospective bridegrooms, as well as the older married folks. The story unfolded in the booklet is woven around Meyers pumps.

SERVICE ON PROBLEMS

The Trico Fuse Manufacturing Co. at Milwaukee has made announcement of the addition to its engineering staff of William T. Clark, who will devote the greater part of his time to service on problems requiring his attention in connection with unusual installations.



12 Wells Were Cutting 3½%

Twelve wells on a lease in the Haskell, Oklahoma, district were cutting 3½%, all of which had been discarded.

A steam treatment of the cut oil had recovered only 15 barrels of oil from every 100 barrels of cut oil.

With TRET-O-LITE the proportion of cut oil has been reduced from 3½% to ¼ of 1%, and all the oil recovered.

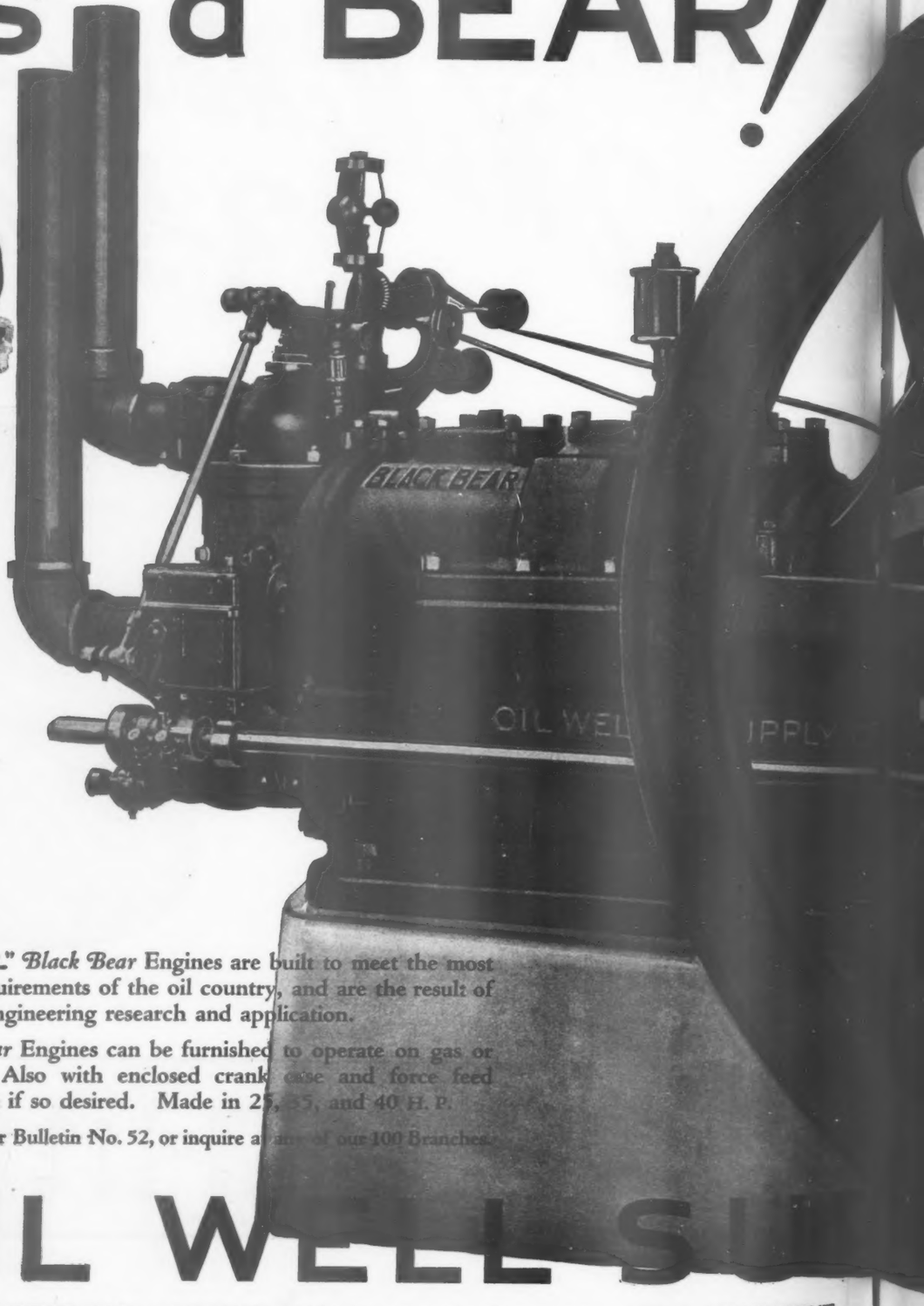
The use of the TRET-O-LITE process is growing by leaps and bounds. It is the only successful method in many districts. May we send our nearest field expert to see you? No obligation.

WM. S. BARNICKEL & CO.
St. Louis, Mo.
Offices and Plant: Webster Groves, St. Louis County, Mo.

Tret-O-lite
Reg. U. S. Pat. Off.

"OILWELL"
ESTD 1862
TRADE MARK (REGISTERED)

It's a BEAR!



"OILWELL" ***Black Bear*** **Engines are built to meet the most severe requirements of the oil country, and are the result of years of engineering research and application.**

Black Bear **Engines can be furnished to operate on gas or gasoline. Also with enclosed crank case and force feed lubrication if so desired. Made in 25, 35, and 40 H. P.**

Send for our Bulletin No. 52, or inquire at any of our 100 Branches.

OIL WELL SU

"OILWELL"
ESTD 1862
TRADE MARK

WORLD'S OLDEST AND LARGEST MANUFACTURERS OF OIL FIELD EQUIPMENT

"OILWELL"
ESTD 1862
C O
TRADE MARK
REGISTERED

The BLACK BEAR Engine

"OILWELL"

TWO-CYCLE GAS ENGINE

Furnished complete—ready to run —no extras to buy.

An up-to-date engine, designed to meet every requirement. It is compact, has few working parts, and the crank case is entirely enclosed. Made in 25-30 H.P.

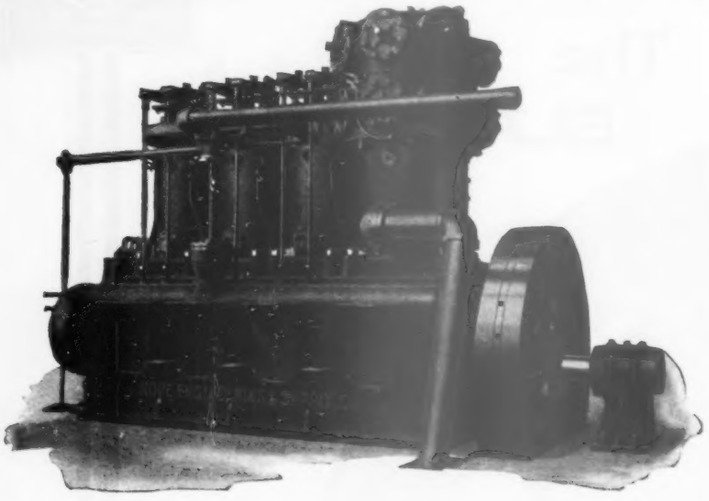
Our test of every engine before leaving the factory is *your* guarantee.

Send for Bulletin No. 57, or inquire at any of our 100 Branches.

BRANCH STORES IN

"OILWELL"
ESTD 1862
C O
TRADE MARK
REGISTERED

ENGINEERS & CONTRACTORS IN NATURAL GAS AND OIL



HOPE Vertical Gas Engine Compressors

You want the maximum of economy—the utmost in reliability—the latest improvements of up-to-date practice—the minimum plant investment per unit of compressing capacity. You'll get them all, in the Hope Vertical Gas Engine-Compressor. You cannot invest your capital, in a compressor plant, to better advantages than in an equipment of Hope Verticals.

Our engineers are ready at any time to go into details with you. Tell us your requirements.

HES-42

ENGINEERS CONTRACTORS HOPE Engineering & Supply COMPANY DESIGNERS MANUFACTURERS

MT. VERNON, OHIO, U. S. A.

LITTLE CHANGE IN REFINING OPERATIONS

(Continued from Page 60)

Skimming Plant (Skm.)—Gasoline, Kerosene, Gas and Fuel Oils.
Skimming and Lube (S. & L.)—Gasoline, Kerosene, Gas and Fuel Oils, Lubricating Oils.
Skimming and Asphalt (S. & A.)—Gasoline, Kerosene, Gas and Fuel Oils, Asphalt.
Skimming and Coke (S. & C.)—Gasoline, Kerosene, Gas and Fuel Oils, Coke.
Skimming, Lube and Asphalt (S. L. & A.)— Gasoline, Kerosene, Gas and Fuel Oils, Lubricating Oils, Asphalt.
Skimming, Lube and Coke (S. L. & C.)—Gasoline, Kerosene, Gas and Fuel Oils, Lubricating Oils, Coke.
Wax Plant (Wax)—Gasoline, Kerosene, Gas and Fuel Oils, Lubricating Oils, Paraffin Wax.
Lube Plant (Lub)—Gas and Fuel Oils, Lubricating Oils.
Lubes and Fuel Oil (L&FO)—Gas and Fuel Oils, Lubricating Oils.
Asphalt Plant (Asph.)—Distillates, Gas and Fuel Oils, Asphalt.
Topping Plant (Top.)—Tops, Distillates, Gas and Fuel Oils.
Status of Plants—Op., operating; S. D., shut down; Bldg., building.

ARKANSAS

Company and Location—	Capacity	Type	Status May 1	Cracking Process Experimental
Arkansas Oil Refining Co., Fort Smith	1,000	S. & L.	S. D.	
Arkansas Refining Corp., Little Rock	500	Skm.	S. D.	
Cross Refining Co., Smackover	2,000	Skm.	Op.	
El Dorado Oil & Pipe Line Co., El Dorado	750	Skm.	S. D.	
Farmers Oil & Ref. Co., Texarkana	750	Skm.	S. D.	
Grison Refining Co., El Dorado	750	Skm.	S. D.	
Home Refining Co., Camden	500	Skm.	Op.	
Home Oil & Ref. Co., Hot Springs	500	Skm.	Op.	
Houston Ice & Brewing Co., El Dorado	1,500	Skm.	S. D.	
Houston Oil Co., Camden	5,000	Crack.	Op.	Dubbs
Jones Oil & Ref. Co., El Dorado	800	Skm.	S. D.	
Kettle Creek Ref. Co., Pearson	4,000	Skm.	Op.	
Lion Oil & Refg. Co., El Dorado	10,000	Skm.	Op.	Burton
MacMillan, Fehlman & Oliver, El Dorado	1,500	Top.	Op.	
Ouachita Valley Ref. Co., El Dorado	1,500	Skm.	Op.	Dubbs
Pine Bluff Ref. Co., Pine Bluff	2,000	Skm.	Op.	Blaisdell
Root Refineries, Inc., El Dorado	2,500	S. & L.	Op.	Dubbs
Shippers Petroleum Co., El Dorado	700	Skm.	S. D.	
*Union Pipe Line & Oil Co., El Dorado	4,000	Skm.	Rerun	Dubbs
Total	40,500			

*Leased by Ouachita Valley Refining Co.

ARIZONA

Continental Oil Co., Farmington	1,000	Skm.	Op.	
Gilliland Oil Co., Roswell	500	Skm.	Op.	
Rio Grande Oil Co., Phoenix	500	Skm.	Op.	
Total	2,000			

CALIFORNIA

Associated Oil Co., Avon	50,000	Comp.	Op.	Dubbs
Associated Oil Co., Los Angeles	7,500	Top	S. D.	
Associated Oil Co., Martines	7,000	Top	Op.	
Brown Process Co., Maricopa	6,000	Top	Op.	
Brown Process Co., Hynes	4,000	Top	Op.	
California Petroleum Corp., Coalinga	3,600	Top	Op.	
California Petroleum Corp., Fellows	10,000	Top	Op.	
California Petroleum Corp., Watson	12,000	Top	Op.	
California Refineries, Inc., Santa Fe Springs	2,000	Top	S. D.	
California Refining Co., Long Beach	1,000	Top	S. D.	
Capital Crude Oil Co., Santa Paula	150	Top	S. D.	
Continental Petroleum Refg. Co., Vernon	6,500	S. W. A.	Op.	
Coalinga-Mohawk Oil Co., Coalinga	3,000	Comp.	Op.	
Commercial Refining Co., Hynes	2,000	Top	S. D.	
Crescent Refg. & Oil Co., Los Angeles	500	Top	S. D.	
Crump-Steele Co., Long Beach	3,000	Top	S. D.	Crump-Steele
Crystal Petroleum Products Co., Hynes	2,500	Comp.	S. D.	
Comet Oil Co. Vernon	3,500	Top	S. D.	
Crystal Oil Co., Vernon	500	Top	Op.	
Delaney Producing & Refg. Co., Long Beach	3,500	Top	Op.	Experimental
Dominion Oil Co., Santa Maria	1,600	Top	Op.	
East-West Refining Co., Los Angeles	1,000	Top	Op.	
General Petroleum Corp., Lebec	10,000	Top	Op.	
General Petroleum Corp., Olenda	2,000	Top	Op.	
General Petroleum Corp., Vernon	55,000	Skm.	Op.	Trumble
Gilmore Oil Co., Salt Lake	2,000	Top	Op.	
Gilmore Oil Co., Vernon	2,000	Comp.	Op.	
Globe Refining Co., Los Angeles	1,500	Top	S. D.	
Golden State Refineries, Inc., Long Beach	3,000	Top	S. D.	
Hancock Refining Co., Long Beach	3,500	Top	Op.	
Harbor Refining Co., Los Angeles	1,500	T. & A.	Op.	
Hart Dearing Refining Co., Fellows	2,000	Top	Op.	
Henderson Oil & Refg. Co., Long Beach	1,000	Top	S. D.	
Hercules Gasoline Co., Los Angeles	2,500	Top	Op.	
Hercules Gasoline Co., Torrence	5,000	Top	Op.	
Holly Oil Co., Huntington Beach	2,500	Top	Bldg.	
Hursh Refining Co., Long Beach	1,000	Skm.	S. D.	
Jameson Oil Co., Los Angeles	6,000	Skm.	Op.	
King Refining Co., Kern River	450	S. A.	S. D.	
McMillan Pet. Products Co., Signal Hill	3,000	Skm.	Op.	
Mercury Refining Co., Vernon	900	Skm.	S. D.	
Mohawk Oil Co., Coalinga	3,000	Top	Op.	Dubbs
Mutual Refining Co., Huntington Beach	2,500	Skm.	Op.	
O'Donnell-Gillett Ref. Co., Whittier	6,000	T. & L.	Op.	
Olympic Refining Co., Signal Hill	4,000	Top	Op.	
Orange Belt Oil Refg. Co., Orange	200	Top	S. D.	
Pacific Midway Oil Co., Maricopa	250	Top	Op.	
Pan American Petroleum Co., Watson	40,000	Comp.	Op.	
Paraffin Co., Inc., Emeryville	1,100	Asph.	Op.	
Peacock Refining Co., Los Angeles	2,000	Comp.	Op.	
Perfection Refining Co., Hynes	3,000	Top	Op.	
Pioneer Paper Co., Vernon	500	Asph.	Op.	
Producers Refining Co., Kern River	600	Lub.	Op.	
Richfield Oil Co., Long Beach	15,000	Comp.	Op.	
Rio Grande Oil Co., Vinvale	4,000	Skm.	Op.	
Seaboard Petroleum Corp., Los Angeles	2,500	Skm.	Op.	
Seaboard Oil Corp., Wilmington	5,000	Top	Op.	
Seaside Oil Co., Summerland	2,000	S. & A.	Op.	
Seaside Oil Co., Ventura	6,000	S. & A.	Op.	
Shell Co. of California, Coalinga	5,000	Top	Op.	Trumble
Shell Co. of California, Martinez	40,000	S. A.	Op.	Dubbs-Trumble-Fleming
Shell Co. of California, Wilmington	24,000	S. A.	Op.	Trumble-Dubbs
Shell Co. of California, Chino	2,000	Top	S. D.	
Sierra Oil & Ref. Co., Oxnard	1,500	S. & L.	S. D.	
Sierra Refining Co., Vernon	10,000	Comp.	Op.	
St. Helens Petroleum, Ltd., Fullerton	200	Top	Op.	
Standard Oil Co. (Cal.), Bakersfield	25,000	S. & A.	Op.	
Standard Oil Co. (Cal.), El Segunda	100,000	Comp.	Op.	Experimental
Standard Oil Co. (Cal.), Richmond	100,000	Comp.	Op.	
Triangle Refining Co., Long Beach	1,000	Top	S. D.	
Union Oil Co., of Cal., Avila	10,000	Top	S. D.	
Union Oil Co., of Cal., Brea	10,000	Skm.	Op.	
Union Oil Co. of Cal., Maitha	3,000	Skm.	Op.	
Union Oil Co., of Cal., Oleum	27,500	S. L. & A.	Op.	
Union Oil Co., of Cal., Santa Paula	900	Skm.	Op.	
Union Oil Co. of Cal., Wilmington	35,000	S. & A.	Op.	Crum
Universal Refining Co., Long Beach	1,000	Skm.	S. D.	
Ventura Refining Co., Fillmore	5,000	S. L. & W.	Op.	
Vernon Oil Ref. Co., Los Angeles	3,000	Skm.	Op.	
Western States Pet. Corp., Fellows	3,000	Skm.	Op.	
Western Refining Co., Wilmington	5,000	S. & L.	Op.	
Wilmington Petroleum Corp., Wilmington	500	Lube.	S. D.	
Wilshire Oil Co., Los Angeles	10,000	Comp.	Op.	
Wilshire Oil Co., Fellows	2,500	Top	Op.	

COLORADO

Company and Location—	Capacity	Type	Status May 1	Crack'g Process
Anaconda Oil & Ref. Co., Genoa	250	Skm.	S. D.	
Apex Refining Co., Loomis	500	Skm.	S. D.	
Raven Oil & Ref. Co., Rangley	100	Skm.	Op.	
United Oil Co., Florence	1,500	Comp.	Op.	Burton
Total	2,350			

GEORGIA

Company and Location—	Capacity	Type	Status May 1	Crack'g Process
Atlantic Refining Co., Brunswick	5,000	Comp.	Op.	Lewis Stills

ILLINOIS

Company and Location—	Capacity	Type	Status May 1	Crack'g Process
Argo Oil Corp., Blue Island	2,500	Skm.	S. D.	
Indiahoma Refining Co., E. St. Louis	6,000	Skm.	S. D.	
Barber Asphalt Co., Madison	250	Asph.	Op.	
Indian Refining Co., Lawrenceville	18,000	Comp.	Op.	Crum-Dubbs-Fleming

Grief and Expenses Reduced to a Minimum

Leidecker Spiral Drilling Tools do reduce Drilling and Producing Expense.

READ HOW

The Midwest Refining Company drilled straight holes in any formation—saved usually one or more strings of casing in every well. LEIDECKER SPIRAL DRILLING TOOLS drill so much better in wet hole or in caving formations, not only saving casing but underreaming expenses as well.

THE MIDWEST REFINING COMPANY

CASPER WYOMING

December 8 1924.

The Leidecker Tool Company
Marietta, Ohio

Gentlemen.

Replying to your letter of inquiry regarding results obtained from your Spiral Tools. We have used several carloads of Spiral Winged Substitutes and Spiral Bits, drilling straight holes in our slanting formations where it was almost impossible to drill a hole with Standard tools that casing could be run and handled in - seving us greatly in present casing expense and future lifting expense

Will also say these Spiral Tools will drill a full round hole in any formation as quickly as Standard Tools will drill a crooked flat hole

GHJ:M

Yours very truly,

Superintendent of Shops & Tools

Jacques Spiral Substitute Serial No. 729339

Harralson Spiral Bit Serial No. 584917

WHY TAKE THE CHANCE?

LEIDECKER SPIRAL DRILLING TOOLS have proven in hundreds of wells that they drill straight vertical holes—a full round one too—faster than the present standard cable tools—so why take the chance of your casing not following when LEIDECKER SPIRAL TOOLS are absolutely beyond doubt your greatest insurance to protect you whether you be Contractor, Driller or Producer—whenever pipe sticks the Driller is always blamed for not properly dressing bit or running too long. LEIDECKER SPIRAL DRILLING TOOLS have proven there had to be other reasons than the Driller always at fault, because we have yet to hear of any casing not following in holes drilled by these tools.

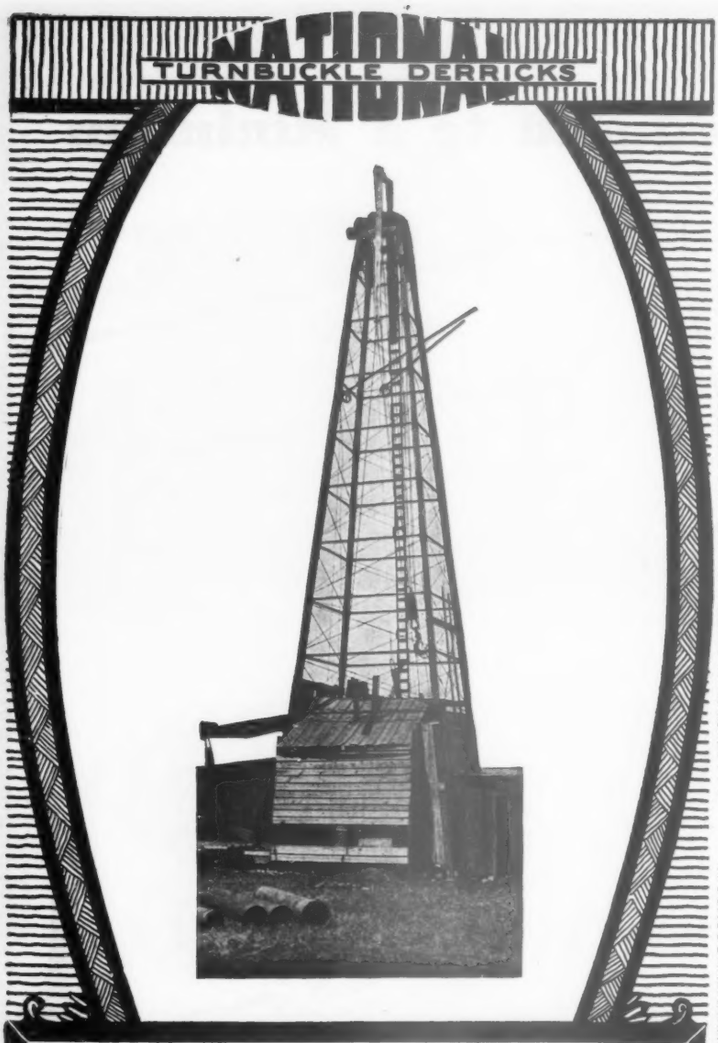
Wire, Phone or Write for the entire story on an achievement in Drilling Tools.

THE LEIDECKER TOOL COMPANY
Marietta, Ohio

Bartlesville, Okla. Basin, Wyoming Casper, Wyoming

LEIDECKER

103



THE MAKERS ANNOUNCE A NEW 122 foot Rotary type Derrick (to comply with the MID-CONTINENT STANDARDIZATION COMMITTEE'S RULING) and a new 72 foot light drilling derrick.

Both have all the famous NATIONAL TURNBUCKLE DERRICK features.

NATIONAL TURNBUCKLE DERRICK COMPANY
413 Wright Bldg., Tulsa, Oklahoma
Affiliated Companies:
Osage Rig, Reel and Lumber Association
Mahan, McCarty and Besse, contract rig builders.

NATIONAL
TURNBUCKLE DERRICKS
NATIONAL

Company and Location—	Capacity	Type	Status May 1	Crack'g Process
Inter-Ocean Refining Co., McCook	5,000	Comp.	S. D.	
Joliet Refining Co., Joliet	1,000	Skm.	S. D.	
Lemont Refining Co., Lemont	1,000	Skm.	Op.	Lemont
Lincoln Oil Refining Co., Robinson	1,200	S. L. W. A.	Op.	Connerty
Lubrite Refining Co., E. St. Louis	3,000	Skm.	Op.	Fleming
Martin Oil & Ref. Co., Osborne	1,000	Skm.	S. D.	
Red River Refining Co., Burnham	500	Lube	Op.	Schulze
Roxana Petroleum Corp., Wood River	26,000	Comp.	Op.	Cross-Dubbs
Standard Oil Co. (Ind.), Wood River	13,000	Comp.	Op.	Burton
The Texas Co., Lockport	4,500	Comp.	Op.	Holmes-Manley
White Star Refining Co., S. Wood River	1,800	Skm.	Op.	Dubbs
Total	89,750			

IOWA

Company and Location—	Capacity	Type	Status May 1	Crack'g Process
Omaha Refining Co., East Omaha	2,000	Skm.	S. D.	Cross

INDIANA

Company and Location—	Capacity	Type	Status May 1	Crack'g Process
Consolidated Oil Ref. Co., East Chicago	2,500	Skm.	S. D.	Greenstreet
Fortland Oil & Ref. Co., Portland	600	Skm.	S. D.	Fleming
Premier Refining Co., Princeton	10	Skm.	Op.	
Service Oil Refining Co., Fairmount	1,200	S. & L.	S. D.	
Sinclair Refining Co., East Chicago	20,000	L. & W.	Op.	Isom
Standard Oil Co. (Ind.), Whiting	50,000	Comp.	Op.	Burton
Vincennes Refining Co., Vincennes	500	Lube	S. D.	
Total	74,810			

KANSAS

Arkansas City Refining Co., Arkansas City	6,000	Comp.	Op.	Dubbs
Bell Producing & Ref. Co., El Dorado	700	Skm.	S. D.	
Chemical Oil & Gas Co., Osawatomie	1,000	Skm.	S. D.	
Commonwealth Oil & Ref. Co., Moran	1,800	Skm.	Op.	
Continental Oil Co., Chanute	1,000	Skm.	S. D.	Blaisdell
Derby Oil & Ref. Corp., Wichita	5,000	Skm.	Op.	Dubbs
Eldorado Refining Co., Eldorado	3,500	Skm.	Op.	
Golden Rule Refining Co., Wichita	1,000	Skm.	Op.	
Gordon Refining Co., Florence	2,000	Skm.	S. D.	
Grant Oil Co., Augusta	1,500	Skm.	S. D.	Jenkins
Industrial Refining Co., Eldorado	1,000	Skm.	S. D.	
Kanotex Refining Co., Arkansas City	6,000	Skm.	Op.	
Kansas City Asphalt & Road Oil Co., K. C.	1,000	Asph.	Op.	
Kansas City Ref. Co., Kansas City	5,000	Skm.	Op.	
Kansas Oil Refining Co., Coffeyville	2,000	Skm.	Op.	
Kansas-Texas Oil Corp., Wichita	1,500	Skm.	S. D.	
Lesh Refining Corp., Arkansas City	2,000	Skm.	S. D.	
McCree Petroleum Corp., Baxter Springs	1,000	Lube	S. D.	
Mecca Refining Co., Augusta	2,500	Skm.	S. D.	
Miller Petroleum Co., Humboldt	2,000	Skm.	Rerun	Cross
Mo-Kan Refining Co., Kansas City	1,000	Skm.	S. D.	
National Refining Co., Coffeyville	6,000	Comp.	Op.	National
Peerless Oil Refining Co., Chanute	3,000	Skm.	Op.	
Red Bird Refining Co., Fredonia	200	Skm.	Op.	
Richardson Refining Co., Eldorado	1,500	Skm.	S. D.	
Roxana Petroleum Corp., Arkansas City	15,000	Skm.	Op.	Dubbs-Cross
Sinclair Refining Co., Kansas City	6,500	Skm.	Op.	Isom
Sinclair Refining Co., Coffeyville	6,000	Comp.	Op.	Isom
Skelly Oil Co., Eldorado	14,000	Skm.	Op.	Jenkins-Cross
Standard Oil Co. (Kansas), Neodesha	12,000	Skm.	Op.	Burton
Tuxedo Oil & Ref. Co., Wichita	300	S. & L.	S. D.	
United Oil & Ref. Co., Hutchinson	2,500	Skm.	Op.	
Van Matre, C. V., Eldorado	1,200	Skm.	S. D.	
Vickers Petroleum Co., Potwin	3,500	Skm.	Op.	Dubbs
Waite Phillips Co., Wichita	5,000	Skm.	Op.	Dubbs-Fleming
White Eagle Oil & Ref. Co., Augusta	6,000	Skm.	Op.	Burton
Total	131,200			

KENTUCKY

Company and Location—	Capacity	Type	Status May 1	Crack'g Process
Ashland Refining Co. (Ashland), Leach	2,000	Skm.	Op.	
Carnahan Oil & Ref. Co., Creelsboro	200	Skm.	Op.	
Central Prod. & Ref. Co., Bowling Green	600	Skm.	Op.	
Cumberland Prod. & Ref. Co., Burkesville	140	Skm.	Op.	
Fayette Ref. & Storage Co., Lexington	400	Skm.	S. D.	
Glasgow Oil & Ref. Co., Glasgow	600	Skm.	Op.	
Great Southern Refining Co., Pryse	3,000	Skm.	Op.	Dubbs
Great Southern Refining Co., Lexington	2,500	S. & L.	Op.	
Inter-Cities Oil Co., Scottsville	1,000	Skm.	Op.	
Louisville Pet. Ref. Co., Inc., Louisville	3,500	S. & C.	Op.	Dubbs
Louisa Co. of Kentucky, Inc., Louisville	3,400	S. & C.	Op.	Fleming
Neha Refining Co., Lexington	800	Skm.	S. D.	
Park City Refining Co., Bowling Green	150	Skm.	S. D.	
Petroleum Refining Co., Latonia	3,000	S. & C.	Op.	Cross
Riggs Refining Co., Bowling Green	300	Skm.	Op.	Fleming
Standard Oil Co. of Kentucky, Louisville	5,000	Skm.	Op.	Burton
Stoll Oil Refining Co., Louisville	1,500	L. & W.	Op.	
Templeton, H. R., Bowling Green	500	Skm.	S. D.	
Total	23,090			

LOUISIANA

Company and Location—	Capacity	Type	Status May 1	Crack'g Process
Alexandria Refining Co. Inc., Alexandria	600	Skm.	Op.	
Associated Refining Co., Oil City	2,000	S. & L.	S. D.	De Camp
Caddo Central Oil & Ref. Corp., Shreveport	3,500	Skm.	Op.	
Caddo Central Oil & Ref. Corp., Shreveport	4,500	Skm.	Op.	
Calcasieu Oil Ref. Co., Westlake	800	Skm.	S. D.	
Chalmette Petroleum Corp., Chalmette	3,000	Skm.	S. D.	
Dartois Oil Ref. Co., Shreveport	80	Lube	Op.	
Delart Refining Co., Lafayette	300	Lube	S. D.	
Great Southern Refining Co., Ardis	2,000	Skm.	Op.	Foreward
Gulf Coast Refining Co., Good Hope	10,000	S. & A.	S. D.	
Home Refining Co., Haynesville	150	Skm.	Op.	
International Oil & Gas Corp., Shreveport	1,000	Lube	S. D.	
Lewis Oil Corp., Shreveport	1,000	Lube	S. D.	
Liberty Oil Co., Ltd., New Orleans	4,000	Skm.	Op.	
Louisiana Oil Ref. Corp., Bossier City	12,000	Skm.	Op.	Tube-Tank
Mexican Pet. Corp. of America, Destrahan	25,000	S. & A.	Op.	Experimental
New Orleans Refining Co., Inc., Good Hope	20,000	T. & A.	Op.	Dubbs
Paramount Refining Co., Vivian	3,000	Skm.	S. D.	
Red River Refining Co., Crichton	1,800	Skm.	S. D.	
Shreveport Prod. & Ref. Corp., Shreveport	5,500	Skm.	Op.	Dubbs
Sinclair Refining Co., Meraux	10,000	Asph.	Op.	
Solar Gasoline Co., Shreveport	1,000	Top.	S. D.	
Southern Oil & Ref. Co., Oil City	2,000	S. & L.	S. D.	
Southern Oil & Ref. Co., Oil City	1,000	S. & L.	S. D.	Experimental
Standard Oil Co. (La.), Baton Rouge	80,000	Comp.	Op.	Burton
Sunset Refining Co., Piaquemine	600	Skm.	S. D.	
The Texas Co., Ardis	10,000	Top.	Op.	
Union Refining & Pipe Line Co., Homer	1,000	Skm.	S. D.	
Total	205,330			

MARYLAND

Company and Location—	Capacity	Type	Status May 1	Crack'g Process
The Inter-Ocean Co., Baltimore	1,200	Comp.	Op.	Dubbs
Prudential Oil Corp., Baltimore	8,000	L. W. & A.	Op.	Dubbs
Standard Oil Co. (N. J.), Baltimore	32,000	Comp.	Op.	Burton, Tube-Tank
United States Asphalt Ref. Co., Baltimore	5,000	Asph.	Op.	
Total	46,200			

MASSACHUSETTS

Company and Location—	Capacity	Type	Status May 1	Crack'g Process
Beacon Oil Co., Everett	20,000	Asph.	Op.	Tube-Tank
Cities Service Refining Co., East Braintree	10,000	S. L. & W.	Op.	Holmes-Manley
New England Oil Ref. Co., Fall River	30,000	Comp.	Op.	Special
Total	60,000			

MINNESOTA

Company and Location—	Capacity	Type	Status May 1	Crack'g Process
Pure Oil Co., Minneapolis	1,000	S. & L.	Op.	

MISSISSIPPI

Company and Location—	Capacity	Type	Status May 1	Crack'g Process
Gulf Coast Oil Ref. Co., Gulfport	250	Skm.	Op.	
Rainbow Oil Co., Greenville	5,000	Skm.	S. D.	
Total	5,250			

MISSOURI

Company and Location—	Capacity	Type	Status May 1	Crack'g Process
Interstate Refineries, Inc., Kansas City	2,000	Skm.	S. D.	Muehl
Marshall & Co., Sheffield	2,500	Skm.	S. D.	
St. Joseph Viscosity Oil & Ref. Co., St. Joe	500	Skm.	S. D.	Burton
Standard Oil Co. (Ind.), Sugar Creek	12,000	Comp.	Op.	

After all—what users say counts most. Here are FACTS.

"I can sincerely say that I never hoped to obtain such satisfactory service from a crude oil engine and I cannot believe that there is any other oil engine made that is superior to the one which I have. Whenever the opportunity presents, I will recommend the acquisition of a Chicago Pneumatic Tool Company engine."

"The first engine was installed in November 1920 and has run every day, or practically so, ever since with a repair bill of 70c, this being on the sprayer nozzle. We are well pleased with these engines and have been burning 32 x 36 gas oil, free from dirt and grit and not more than 1% sulphur and have found it entirely satisfactory, and we consider it an economical fuel."

"A recent inspection of all the working parts of the engines revealed almost imperceptible wear, and this was especially noted where wear would be most likely to appear. It was very gratifying to find these engines in such splendid shape after over two years use, and while we are users of other makes of engines, we are pleased to state that future installations of this kind will be Giants. . . ."

Typical— of Giant Engines

THIS Giant 130 H.P. Engine, in an Oklahoma refining plant (name upon request), ran continuously for six months—day and night, week-day and Sunday—finally being shut down to make a new water connection on equipment which the engine was operating.

Three other Giant Engines and three Chicago Pneumatic Compressors are giving constant service in this plant.

Numerous installations similar to this all over the world prove that these simple and highly developed engines justify the consideration of engineers seeking dependable power equipment.

For convenient reference and complete information—write today for Bulletins.

Photostat copies of letters on request.

Chicago Pneumatic Tool Company

6 East 44th Street, NEW YORK, N. Y.

*Sales and *Service Branches all over the World*

*Birmingham, *Boston, *Chicago, *Cincinnati, *Cleveland, Dallas, Denver, *Detroit, El Paso, Houston, *Los Angeles, *Minneapolis, *New Orleans, *New York, *Philadelphia, *Pittsburgh, Richmond, Salt Lake City, *San Francisco, *Seattle, *St. Louis, Tulsa, *Berlin, *Bombay, *Brussels, *Buenos Aires, Calcutta, Christiania, Dairen, Honolulu, *Durban, *Havana, Helsingfors, *Johannesburg, Kobe, *London, Manila, *Milan, Moncton, *Montevideo, *Montreal, Osaka, Paris, Rio de Janeiro, *Rotterdam, Santiago, *Sao Paulo, Seoul, Tampico, Thumba, Tokyo, *Toronto, *Vancouver, *Winnipeg

Canadian Pneumatic Tool Company, Ltd., Montreal, manufacturers of Chicago Pneumatic products in Canada
Consolidated Pneumatic Tool Company, Ltd., London, manufacturers of Chicago Pneumatic products in England

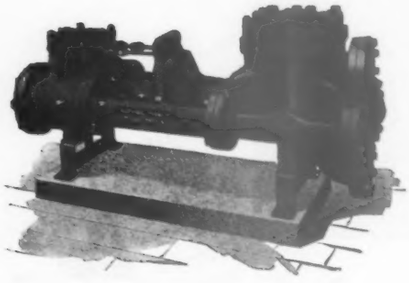
EN-66

BOYER PNEUMATIC HAMMERS · LITTLE GIANT PNEUMATIC AND ELECTRIC TOOLS
CHICAGO PNEUMATIC AIR COMPRESSORS · VACUUM PUMPS · PNEUMATIC HOISTS
GIANT OIL AND GAS ENGINES · ROCK DRILLS · COAL DRILLS

GIANT ENGINES

Dependable Power at Less Cost Per Hour

Advertising does not make better pumps



Advertising does not make better pumps, but business sufficiently up-to-date to recognize value in advertising are more apt to produce pumps that fill present day needs.

Advertising has become the foot prints by which orders find their way to businesses that deserve them most.

NATIONAL TRANSIT PUMP & MACHINE CO.

Oil City, Pa.

District Offices: New York Philadelphia Pittsburgh Cleveland Tulsa Houston Denver

Wilhoit Refining Co., Joplin	1,500	Skm.	Op.	
Total	18,500			

MONTANA

Company and Location—	Capacity	Type	Status May 1	Crack'g Process
American Refining Co., Great Falls	1,000	Skm.	S. D.	
Absher Refineries, Inc., Kevin	1,000	Skm.	Op.	
Arro Oil & Ref. Co., West Lewistown	1,500	Skm.	Op.	Dubbs
Hart Refineries, Missoula	300	Skm.	Op.	
International Refining Co., Sunburst	5,000	Skm.	Op.	
Lewistown Oil & Ref. Co., Lewistown	1,000	Skm.	Op.	
Montana Refining Co., Billings	500	Skm.	S. D.	
Snow Cap Oil Co., Sunburst	100	Skm.	Op.	
Sunburst Refining Co., Great Falls	3,000	Skm.	Op.	
Weowna Refining Co., Winnett	1,300	Skm.	Op.	
Yale Oil Corp. of S. D., Miles City	1,000	Skm.	Op.	
Total	16,400			

NEW JERSEY

Company and Location—	Capacity	Type	Status May 1	Crack'g Process
Barber Asphalt Co., Maurer	3,000	Asph.	Op.	
Columbia Oil Co., Constable Hook	1,000	S. & A.	S. D.	
Galena-Signal Oil Co., Elizabeth	1,500	Comp.	Op.	
Raritan Refining Corp., New Brunswick	5,000	Skm.	S. D.	
Standard Oil Co. (N. J.), Jersey City	17,000	S. & L.	Op.	
Standard Oil Co. (N. J.), Linden	75,000	Comp.	Op.	Burton, Tube-Ti
Standard Oil Co. (N. J.), Bayonne	88,000	Comp.	Op.	
Tidewater Oil Co., Bayonne	40,000	Comp.	Op.	Burton
Vacuum Oil Co., Paulsboro	13,000	Comp.	Op.	Ellis-Fleming
Valvoline Oil Co., Edgewater	3,000	Comp.	Op.	Connerty
Warner Quinlan Co., Warners	5,000	T. L. & A.	Op.	Dubbs
Total	251,500			

NEW YORK

Company and Location—	Capacity	Type	Status May 1	Crack'g Process
American Purchase Sales Corp., Buffalo	200	Lube	S. D.	
Bolivar Refining Co., Bolivar	100	Skm.	S. D.	
Sinclair Refining Co., Wellsville	1,000	L. & W.	Op.	
Standard Oil Co. (N. Y.), Brooklyn	33,000	Comp.	Op.	Burton-Cross
Standard Oil Co. (N. Y.), Buffalo	3,500	Wax	Op.	
Vacuum Oil Co., Olean	7,000	Comp.	Op.	Ellis

OHIO

Company and Location—	Capacity	Type	Status May 1	Crack'g Process
Akron Oil Refining Co., Akron	600	Skm.	S. D.	
Canfield Oil Co., Cleveland	1,200	Comp.	Op.	
Craig Oil Co., Toledo	1,500	S. L. & W.	Op.	
National Refining Co., Findlay	1,500	L. & W.	Op.	National
National Refining Co., Marietta	500	L. & W.	Op.	National
Ohio Refining Co., Cincinnati	1,500	Skm.	Op.	
Paragon Refining Co., Toledo	8,000	S. L. & W.	Op.	
Pure Oil Co., Heath	4,000	Skm.	Op.	Cross
Rajah Oil & Ref. Co., Youngstown	400	S. & L.	Op.	
Solar Refining Co., Lima	10,000	Comp.	Op.	Burton
Sun Oil Co., Toledo	2,500	S. & L.	Op.	
Super Oil Co., Toledo	400	Lube	Op.	
Standard Oil Co. of Ohio, Toledo	7,500	Crack.	Op.	Burton
Standard Oil Co. of Ohio, Cleveland	7,500	C. L. & W.	Op.	Burton
Stellar Refining Co. (Newark), Marne	1,000	S. & C.	Op.	Leamon
Total	49,100			

OKLAHOMA

Company and Location—	Capacity	Type	Status May 1	Crack'g Process
Acme Ref. & Pipe Line Co., Jennings	1,000	Skm.	S. D.	
Allied Refining Co., Okmulgee	1,800	Skm.	Op.	
Anderson-Prichard Oil Corp., Cyril	1,200	Skm.	Op.	
Barnsdall Refining Co., Barnsdall	5,000	Comp.	Op.	Fleming
Beaver Prod. & Ref. Co., Dilworth	700	Skm.	S. D.	
Bell Oil & Gas Co., Grandfield	3,000	Skm.	Op.	
Big Diamond Oil & Ref. Co., Addington	500	Skm.	S. D.	
Big Six Refining Co., Sapulpa	2,000	Skm.	S. D.	Landis
Bison Refining Co., Quay	1,000	Skm.	S. D.	
Bolene Refining Co., Enid	5,000	Skm.	Op.	
Buffalo Refining Co., Yale	1,000	Skm.	S. D.	
Cameron Refining Co., Ardmore	3,600	Skm.	Op.	
Canfield Refining Co., Yale	500	Skm.	Op.	
Carter Oil Co., Cartoco	10,000	Skm.	S. D.	
Champlin Refining Co., Enid	16,000	S. L. & W.	Op.	
Chestnut & Smith Corp., Sand Springs	5,000	Skm.	S. D.	
Coleman-Nelson Corp., Haskell	1,000	Skm.	S. D.	
Coleman-Nelson Corp., West Tulsa	2,000	Skm.	S. D.	
Constantin Refining Co., Devol	8 000	Skm.	S. D.	
Constantin Refining Co., West Tulsa	4,000	Skm.	S. D.	
Continental Oil Co. (Sapulpa Ref.), Sapulpa	7,000	S. L. & W.	Op.	Cross
Cushing Ref. & Gasoline Co., Blackwell	1,500	Skm.	Op.	
Cushing Ref. & Gasoline Co., Cushing	2,500	Skm.	Op.	
Daisy Belle Petroleum Co., Wilson	2,000	Skm.	S. D.	
El Dorado Oil Ref. Co., Yale	1,000	Skm.	S. D.	
Empire Refineries, Inc., Cushing	7,000	Skm.	Op.	Empire
Empire Refineries, Inc., Oklahoma City	2,000	Skm.	S. D.	
Empire Refineries, Inc., Okmulgee	3,000	Comp.	Op.	Empire-Coast
Empire Refineries, Inc., Ponca City	6,500	Comp.	Op.	Empire
Fairmount Refining Co., Fairmount	2,500	Skm.	Op.	
Francis Oil & Ref. Co., Francis	1,000	Skm.	S. D.	
Frederick Oil & Ref. Co., Frederick	1,000	Skm.	S. D.	
Garber Refining Co. (Omar), Garber	3,000	Skm.	Op.	
Gilmer Oil Co., Ringling	1,000	Skm.	S. D.	
Glen Braden Refining Co., Perry	1,500	Skm.	S. D.	
Globe Oil & Ref. Co., Blackwell	5,000	Skm.	Op	Cross
Hewitt Refining Co., Hewitt	1,800	Skm.	Op.	
Illinois Oil Co., Cushing	3,000	Skm.	Op.	
Imperial Refining Co., Ardmore	6,000	Skm.	Op.	Dubbs
Indiahoma Refining Co., Okmulgee	10,000	Skm.	S. D.	
Inland Refining Co., Cushing	3,000	Skm.	S. D.	Hanson
Johnson Oil Ref. Co., Cleveland	4,000	Skm.	Op.	Dubbs
Lawton Refining Co., Lawton	1,000	Skm.	Op.	
Lorraine Refining Co., Bristow	4,000	Skm.	Op.	
Mariand Refining Co., Ponca City	15,000	Comp	Op.	Fleming
Maud Oil & Ref. Co., Maud	400	Skm.	S. D.	
Mecca Refining Co., Allen	2,000	Skm.	S. D.	
Midco Petroleum Co., West Tulsa	5,000	Skm.	S. D.	
Mid-Continent Petroleum Corp. (Cosden & Co.), West Tulsa	35,000	Comp.	Op.	
Newkirk Oil & Ref. Co., Newkirk	2,000	Skm.	S. D.	
North American Ref. Co. (Oil & Ref. Corp.), Pemeta	2,500	Skm.	S. D.	
Nyanza Refining Co., Wilson	3,500	Skm.	Op.	
Oil State Refining Co., Enid	2,000	Skm.	Op.	
Oil State Refining Co., Allen	800	Skm.	S. D.	
Okla.-Tex Ref. Co. (Sagamore), Grandfield	2,000	Skm.	Op.	
Oklahoma Star Refining Co., Frederick	500	Skm.	S. D.	
Owanda Refining Co., Oklahoma City	750		S. D.	Experimental
Pierce Oil Corp., Sand Springs	10,000	Skm.	S. D.	
Pioneer Petroleum Corp., Guthrie	1,000	Skm.	S. D.	
Powerine Oil Co., Billings	500	Skm.	Op.	
Producers & Refiners Corp., Blackwell	8,000	Comp.	Op.	Cross
Pauline Refining Co., Hampton	1,200	Skm.	S. D.	
Pawhuska Refining Co., Pawhuska	1,000	Skm.	S. D.	
Peppers Gasoline Co., Covington	1,000	Skm.	Op.	
Producers & Refiners Corp., West Tulsa	7,000	Skm.	Op.	Dubbs-Coast
Producers & Refiners Corp. (Polar), Sapulpa	2,000	Skm.	S. D.	
Pure Oil Co., Ardmore	6,500	Skm.	Op.	Dubbs
Pure Oil Co., Cushing	5,000	Skm.	Op.	
Tonkawa Petroleum Corp., Tonkawa	2,500	Comp.	Op.	
Red Seal Refining Corp., Oklahoma City	2,000	S. & L.	S. D.	
Republic Refining Co., Jennings	1,500	Skm.	S. D.	
Riley Petroleum Co., Bristow	800	Skm.	Op.	Experimental
Rock Island Ref. & Pipe Line Co. (Beckett), Duncan	2,500	Skm.	Op.	
Roland Oil Co., Bristow	1,500	Skm.	Op.	
Santa Fe Oil & Ref. Co., Ardmore	3,000	Skm.	S. D.	Dubbs
Sayre Oil & Ref. Co., Sayre	200	Skm.	S. D.	
Shaffer Oil & Ref. Co., Cushing	8,000	Comp.	Op.	Dubbs
Sinclair Refining Co., Cushing	6,000	Skm.	Op.	
Sinclair Refining Co., Muskogee	1,000	S. & L.	Op.	
Southern Oil Corp., Yale	6,000	Skm.	S. D.	
Sun Oil Co., Yale	3,000	Skm.	Op.	
Superior Oil Corp., Grandfield	3,000	Skm.	S. D.	
The Texas Co., West Tulsa	10 000	Skm.	Op.	Holmes-Manley
Texas Pacific Coal & Oil Co., Wynnewood	2,500	Skm.	Op.	Dubbs
Tidal Refining Co., Drumright	5,500	Skm.	Op.	Burton
Pure Oil Co., Muskogee	3,600	Skm.	Op.	

FORMAX OIL COMPANY WRITE

Our Success Remarkable

with the NEBERGALL SPIRAL STEM

produced by the Titusville Forge Company

FORMAX OIL COMPANY
Los Angeles, California

March 17, 1925

Hillman-Cooney, Inc.,
1118 Santa Fe Ave.,
Los Angeles, Cal.

Exclusive California Representatives
NEBERGALL TIFOCO SPIRAL STEM.

Gentlemen:

We are forwarding you the following information on your Spiral Stem, which we have been using on our well north of McKittrick.

Our success with this tool has been remarkable.

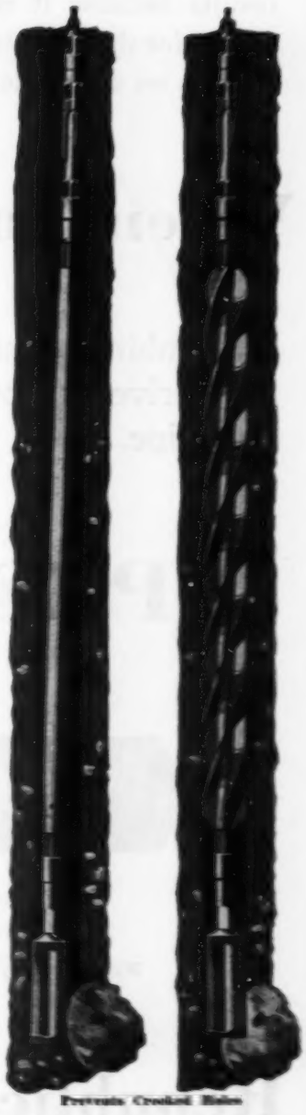
We have drilled more than 2,000 feet of open hole in less than 45 days. Up to the time we put the Spiral Stem in use we had a lot of trouble with a crooked hole.

As a matter of fact, it was practically impossible for us to drill a straight hole and we feel that without the use of the Spiral Stem we would not have been able to get the hole down at all. We now have 3,050 feet of 12½" hole, 2,050 feet of it being open.

We cannot speak too highly of this tool, not only as to its economy, but also as to the results obtained.

Yours very truly,

FORMAX OIL COMPANY,
By L. T. McCutcheon.



Prevents Crooked Holes

SOLID FORGED STEEL WITHOUT WELDS

The SPIRAL STEM fills the hole and forces the bit to cut straight downward. This stem is now forged complete from high grade forging quality open hearth steel, without welds. Castings have been eliminated, rendering it practically unbreakable and accident proof.

Distributed by The Continental Supply Company, Hillman-Cooney, Inc., of Los Angeles, and for Export by the Continental Well Supply Co., 2 Rector St., New York. Special Mid-Continent Representative, O. O. Adkins, Wichita Falls, Texas; Colorado and Wyoming, L. E. Nebergall, Denver.

Fully Covered by Basic Patents

TITUSVILLE FORGE COMPANY
Titusville, Penna.

SPIRAL STEM

WHAT OTHERS SAY

J. J. Cuzzy, Carter Oil Company, Tulsa:

"Regarding the success we are having with SPIRAL STEMS, I want to state that our men have found them very helpful, especially in country where we are troubled with crooked holes. They are also advantageous in a heavy hole and especially where you are carrying a hole full of water."

* * *

Jno. McFadyen, Ohio Oil Co., Quapaw:

"We have been using your Spiral Stem more or less for the past three years. A few months ago we purchased three new forged steel Spiral Stems through Mr. Lobenstein, and we are well satisfied with them, as they have eliminated a lot of trouble where we have been having some crooked holes."

* * *

These experiences have been duplicated by most of the larger companies. SPIRAL STEMS have been in service for 4 years and are in successful use in the United States, Roumania, Poland, Colombia, Spain, Peru, Venezuela, Argentine Republic.

REPUBLIC

Republic Pipe gives the best possible results because it is specifically designed for the work it must do. It is as good as we can make it.

When You Need

Tubing, Casing, Line, Drive or Rotary Drill Pipe.

SPECIFY

Write for our prices today

Republic Iron & Steel Co.

General Offices:

Republic Bldg., Youngstown, Ohio

Sales Offices:

Buffalo	San Francisco	Cleveland
Boston	Philadelphia	Dallas
St. Louis	Cincinnati	Detroit
New York	Pittsburgh	Chicago
		Birmingham

Transcontinental Oil Co., Boynton	2,500	Comp.	Op.	Slagter
Transcontinental Oil Co., Bristow	6,000	Skm.	Op.	Slagter
Turley Refining Co., Oklahoma City	2,500	Skm.	S. D.	
Union Oil & Ref. Co., Grandfield	3,000	Skm.	S. D.	
Waite Phillips Co., Okmulgee	6,000	Skm.	Op.	Cross
Wagoner Refining Co., Wagoner	300	Skm.	S. D.	
Western Oil Corp., Comanche	1,500	Skm.	Op.	
Westheimer & Daube, Healdton	1,000	S. & L.	S. D.	
Whaleback Production Co., Oklahoma City	1,500	Skm.	Op.	
Yale Asphalt Co., Yale	1,000	Asph.	S. D.	
Yale Oil Corp., Yale	1,500	Skm.	Op.	
Total	354,550			

PENNSYLVANIA

Company and Location—	Capacity	Type	Status May 1	Crack'g Process
Amber Oil & Realty Co., Stoneham	100	Petro.	S. D.	
American Oil Works Co., Titusville	800	S. & L.	Op.	Fleming.
Atlantic Refg. Co., Point Breeze	50,000	Comp.	Op.	Lewis-Cross
Atlantic Refg. Co., Franklin	8,000	Comp.	Op.	Lewis-Cross
Atlantic Refg. Co., Pittsburgh	5,000	Comp.	Op.	Lewis
Beaver Refining Co., Oak Grove	200	S. & L.	Bldg.	
Bradford Refining Co., Bradford	1,000	Comp.	Op.	
Butler County Oil & Refg. Co., Bruin	1,000	L. & W.	Op.	Snodgrass
Canfield Oil Co., Coraopolis	1,000	Comp.	Op.	
Carnegie Refining Co., Carnegie	1,050	Lub.	Op.	
Chippewa Oil Co., Bridgewater	200	S. & L.	S. D.	
Conewango Refining Co., Waren, 2 plants	4,100	S. & L.	Op.	Snodgrass
Continental Refg. Co., Oil City	1,000	L. W. G.	Op.	
Crew Levick Co., Titusville	3,000	Wax	Op.	
Crew Levick Co., Warren	900	Wax	S. D.	
Crystal Oil Works., Rouseville	1,000	L. & W.	Op.	
W. H. Daugherty & Son Ref. Co., Petrolia	300	S. & L.	Op.	
Eastern Oil Refg. Co., Russell	300	S. & L.	S. D.	
Emery Mfg. Co., Bradford	1,500	L. & W.	Op.	
Emlenton Refining Co., Emlenton	600	Wax	Op.	
Empire Oil Works, Oil City	600	L. & W.	Op.	
Emlenton Refg. Co., Emlenton	800	Comp.	Op.	Snodgrass
Franklin Oil Works, Raymilton	500	Comp.	Op.	
Franklin Creek Refg. Corp., Franklin	600	Lub.	Op.	
Franklin Quality Refining Co., Franklin	700	Wax	S. D.	
Freedom Oil Works Co., Freedom	1,500	Wax	Op.	
Galina-Signal Oil Co., Franklin	2,000	Comp.	Op.	
Independent Refg. Co., Oil City	1,200	Comp.	Op.	Snodgrass
Interior Oil & Gas Corp., Clarendon	500	S. & L.	S. D.	
Island Petroleum Co., Neville Island	1,000	Comp.	Op.	Snodgrass
Kendall Refg. Co., Bradford	1,000	L. & W.	Op.	Dubbs
Lakeside Oil Refg. Co., Franklin	400	S. & L.	S. D.	
Lucinda Refg. Co., Lucinda	500	Skm.	Op.	
Levi Smith Refg. Co., Clarendon	500	Skm.	Op.	
McKean County Refg. Co., Farmers Valley	1,000	Skm.	Op.	
Miller Sons Co., A. D., Pittsburgh	1,000	L. & W.	Op.	Miller
Mutual Refining Co., Warren	500	S. & L.	Op.	Snodgrass
Oil Creek Refg. Co., East Titusville	1,000	S. L. & W.	Op.	
Oil Field Refg. Co., Stoneham	100	Skm.	S. D.	
Pennsylvania Refg. Co., Karns City	500	Lub.	Op.	
Pennsylvania Oil Pdcts. Rfg. Co., Eldred	1,000	Wax	Op.	
Pennzoil Oil Co., Rouseville				
Pennzoil Oil Co., Oil City, 2 plants	3,500	Comp.	Op.	Fleming
Petrolia Refining Co., Petrolia	30	Skm.	S. D.	
Pittsburgh Oil & Ref. Co., Coraopolis	3,000	Skm.	Op.	
Pure Oil Co., Marcus Hook	5,000	Wax	Op.	
Pure Oil Co., Warren	2,000	Wax	Op.	
Seneca Oil Works, Warren	500	L. & W.	Op.	Snodgrass
Sinclair Refining Co., Marcus Hook	12,000	Skm.	Op.	Isom
Starlight Refining Co., Karns City	150	Petro.	Op.	
Sun Oil Co., Marcus Hook	20,000	Comp.	Op.	Cross
Superior Oil Works, Warren	400	L. & W.	Op.	
The Texas Co., Marcus Hook	5,000	Asph.	Op.	
Tidioute Refining Co., Tidioute	800	Skm.	Op.	
Titusville Oil Works, Titusville	1,000	Skm.	Op.	Fleming
Tiona Refg. Co., Clarendon	1,000	L. & W.	Op.	
Titusville Oil Works, Titusville	1,000	S. & L.	Op.	Fleming
United Refining Co., Warren	1,000	Wax	Op.	
United Central Oil Corp., Clarendon	1,000	S. & L.	S. D.	
Valvoline Oil Co., East Butler	1,200	Wax	Op.	Snodgrass
Valvoline Oil Co., Warren	1,800	Comp.	Op.	Connerty
Viking Oil Co., Stoneham	500	Lub.	Op.	
Vulcan Oil Refg. Co., Coraopolis	1,000	Comp.	Op.	Dubbs
Warr Penn Refg. Co., Warren	400	Lub.	Op.	
Waverly Oil Works Co., Pittsburgh	1,000	L. W. G. C.	Op.	Cross
White Oil Corp., Clarendon	1,000	Lub.	S. D.	
Total	161,800			

RHODE ISLAND

Company and Location—	Capacity	Type	Status May 1	Crack'g Process
The Texas Co., Providence	5,000	Asph.	Op.	

SOUTH CAROLINA

Company and Location—	Capacity	Type	Status May 1	Crack'g Process
Standard Oil Co., (New Jersey), Charleston	10,000	Asph.	Op.	Burton Tube-Ti

TENNESSEE

Company and Location—	Capacity	Type	Status May 1	Crack'g Process
Gillespie Oil Corp., Gallatin	125	Skm.	Op.	
Producers Pipe Line & Refg., Nashville	500	Skm.	S. D.	
Royal Refining Co., Memphis	1,200	Skm.	S. D.	
Total	1,825			

TEXAS

Company and Location—	Capacity	Type	Status May 1	Crack'g Process
Abilene Refining Co., Abilene	400	Skm.	S. D.	
Able Refining Co., Houston	100	Lube	S. D.	
Amarillo Refining Co., Amarillo	3,000	Skm.	Op.	
American Oil Co., Pioneer	1,500	Skm.	S. D.	
American Refining Co., Wichita Falls	7,000	Skm.	Op.	Cross-Dubbs
Associated Producing & Ref. Co., Bridgeport	1,000	Skm.	S. D.	
Austin Petroleum Co., Rockdale	2,000	Skm.	S. D.	
Atlas Refining Co., San Antonio	1,000	Skm.	Op.	
Baney Refining Co., Brownwood	500	Skm.	S. D.	
Bear Refining Co., Burkburnett	1,200	Skm.	S. D.	
Big Four Refining Co., Panhandle	2,000	Skm.	Op.	
Blue Ribbon Refineries, Brownwood	500	Lube	S. D.	
Boardman Oil Co., Wichita Falls	700	Skm.	S. D.	
H. E. Boner, Burkburnett	500	Skm.	S. D.	
Brazos Gasoline Co., Inc., Brazos	500	Skm.	S. D.	
Bridgeport Refining Co., Bridgeport	1,000	Skm.	Op.	
Brownwood Prod. & Ref. Co., Brownwood	250	Skm.	S. D.	
Buffalo Refining Co., Sherman	500	Skm.	Op.	
Cisco Refining Co., Cisco	1,000	Skm.	S. D.	
Clayton Oil & Ref. Co., Dallas	4,500	Skm.	Op.	Cross
Corsicana Oil & Ref. Co., Corsicana	400	Lube	Op.	
Crown Oil & Ref Co., Pasadena	3,000	Lube	S. D.	
Crystal Petroleum Co., Burkburnett	1,000	Skm.	Op.	
Dalford Oil & Ref. Co., Fort Worth	5,000	Skm.	S. D.	
Deepwater Oil Refineries, Inc., Houston	2,500	Lube	Op.	
De Leon Pipe Line & Ref. Corp., De Leon	1,500	Skm.	Op.	
Denison Oil & Ref. Co., Denison	1,000	Skm.	S. D.	
Eastland-Pioneer Oil Ref. Co., Cisco	750	S. & L.	Op.	Holmes-Manley
Elliot Jones & Co., San Antonio	3,000	Skm.	Op.	
Falls Refining Co., Wichita Falls	1,500	Skm.	Op.	
Four States Refining Co., Texarkana	750	Top.-A.	Op.	
Freeport Asphalt Co., Bryanmound	10,000	Lube	Op.	Burton
Galena-Signal Oil Co., Galena	10,000	Skm.	S. D.	
Gorman Home Refining Co., Gorman	1,000	Skm.	S. D.	
Graham Refining Co., South Bend	1,200	Skm.	Op.	Fleming-Dubbs
Grayburg Oil Co., San Antonio	6,500	Skm.	Op.	
Griswold Oil Co., Electra	3,000	Comp.	Op.	Gulf
Gulf Refining Co., Port Arthur	100,000	Skm.	Op.	Gulf
Gulf Refining Co., Fort Worth	15,000	Skm.	S. D.	
Hagaman Refining Corp., Tiffin	2,000	Skm.	S. D.	
Hogg Creek Refining Co., Stephenville	1,000	Skm.	S. D.	
Home Refining Co., Breckenridge	500	Skm.	S. D.	
Home Refinery, Swastika	1,000	Skm.	Op.	Fleming
Houston Terminal Ref. Co., Houston	4,000	S. & L.	Op.	Tube & Tank
Humble Oil & Ref. Co., Baytown	20,000	Skm.	Op.	Tube & Tank
Humble Oil & Ref. Co., Burkburnett	3,000	Skm.	Op.	
Humble Oil & Ref. Co., San Antonio	3,000	Skm.	Op.	
Humble Oil & Ref. Co., Hearne	10,000	Skm.	S. D.	
Interstate Gasoline Co., Iowa Park	2,000	Skm.	S. D.	
Interstate Refineries, Inc., Tiffin	2,000	Skm.	S. D.	
Interstate Refineries, Inc., Ranger	2,000	Skm.	S. D.	
Invincible Oil Corp., Fort Worth	5,000	Skm.	Op.	
Iowa Park Producing & Ref. Co., Iowa Park	2,500	Lube	Op.	
Keen and Woolf Oil Co., Clinton	1,400	Skm.	Op.	
Kent-Middleton Refining Co., Angus	3,000	Skm.	S. D.	

This Valve Is Always Worth More Than It Cost

The more quality you buy, the less you will spend for valves in the long run.

Darling Gate Valves are known wherever valves are used as "the long-lived, dependable valves." They have all those qualities that minimize the trouble and expense of repairs and replacements.

Isn't that the kind of a valve you want?

Details of design and construction sent on request.

DARLING VALVE & MANUFACTURING COMPANY

Williamsport, Penna.

NEW YORK CHICAGO OKLAHOMA CITY HOUSTON

Mid-Continent Distributors:

Frick-Reid Supply Company
Atlas Supply Company
Muskogee and Branches
International Supply Company
Petroleum Supply Company

California Distributor:

Petroleum Equipment Company, Los Angeles

DARLING
GATE VALVES

The PRACTICAL Gas Separator

Maloney Tanks make a "clean" job of oil and gas separation, because they are so constructed that evaporation is eliminated, while vacuum-pressure valves safely insure against collapse or rupture. Only the simplest fittings are necessary, and every other form of gas trap or separator is dispensed with. Many Maloney Tanks are now in use for this purpose and, more and more, operators are adopting this simple, practical and economical method.

"Alone in Quality"

MALONEY TANK MFG. CO.
Tulsa, Oklahoma

We now furnish "Buck" type vacuum-pressure valves and vacuum Breakers

MADE OF KEYSTONE COPPER STEEL

12 to 3,000 Bbls. Capacity

MADE OF KEYSTONE COPPER STEEL

Prompt, Dependable Export Service

MALONEY PATENTED BOLTED COPPER-STEEL

203

MALONEY ALONE

Langley Refining Co., Burkburnett	1,500	Lube	S. D.	
La Porte Oil & Ref. Co., La Porte	800	Skm.	S. D.	
Lewis Oil Corp., Burkburnett	1,200	Skm.	S. D.	
Lewis Oil Corp., Comanche	1,000	Skm.	S. D.	
Lone Star Refining Co., Wichita Falls	4,000	Skm.	Op.	
Magnolia Petroleum Co., Corsicana	3,000	Skm.	Op.	
Magnolia Petroleum Co., Fort Worth	10,000	Comp.	Op.	Burton
Magnolia Petroleum Co., Beaumont	40,000	Skm.	Op.	
Magnolia Petroleum Co., Magpetco	5,000	Skm.	S. D.	
Magnolia Petroleum Co., Luling	5,000	Skm.	Op.	
Megargel Oil & Ref Co., Megargel	2,000	Skm.	Op.	
Mexia Oil & Ref. Co., Mexia	800	Skm.	S. D.	
Midwest-Texas Oil Co., South Bosque	1,000	Skm.	Op.	Cross
Miller Petroleum Co., Wichita Falls	3,000	Lube	Op.	
Minko Refineries, Inc., Mirando City	1,200	Skm.	S. D.	Metter
National Petroleum Co., Inc., Greenville	2,000	Skm.	Op.	
Noble Oil & Gas Co., Burkburnett	6,000	Skm.	Op.	
Olney Oil & Ref. Co., Olney	1,000	Skm.	Op.	
Orient Petroleum Co., Wichita Falls	2,500	Skm.	Op.	
Oriental Refining Co., Dallas	5,000	Skm.	Op.	
Oriental Refining Co., Dallas	6,000	Skm.	Op.	
Owens Oil & Ref. Co., Sweetwater	1,500	Skm.	Op.	
Owens Refining Co., Minerva	1,500	Skm.	Op.	Dubbs
Panhandle Refining Co., Wichita Falls	4,000	Skm.	Op.	
Paris Refining Co., Paris	250	Skm.	Op.	
Pa-Tex Petroleum Co., Morgan's Point	500	Lube	Op.	
Patterson Oil Co., Brownwood	1,000	Portable	Op.	
Peerless Refining Co., Wortham	2,000	Skm.	Op.	
The Petroleum Corp., Electra	2,000	Skm.	Op.	
Pierce Petroleum Corp., Texas City	10,000	S. & L.	S. D.	
Pierce Petroleum Corp., Fort Worth	8,000	Skm.	S. D.	
Port Houston Oil & Ref. Co., Pasadena	500	Skm.	S. D.	
Primrose Refining Co., Wichita Falls	1,500	Skm.	Op.	
Pioneer Oil & Ref. Co., San Antonio	1,500	Skm.	Op.	
Producers Refining Co., Wichita Falls	5,000	Skm.	Op.	
Pure Oil Co., Smith's Bluff	10,000	Skm.	Op.	Cross
Ranger-Wichita Oil & Ref. Co., Wichita Falls	3,000	Skm.	Op.	
Rio Grade Oil Co., El Paso	2,500	Skm.	Op.	
Seaboard Oil & Ref. Co., Orange	350	Lube	S. D.	
Sinclair Refining Co., Houston	18,000	Skm.	Op.	Isom
Skelly Oil Co., Burkburnett	2,000	Skm.	S. D.	
Southern Refining Co., Somerset	1,500	Skm.	Op.	Fleming
South Bosque Refining Co., South Bosque	1,000	Skm.	S. D.	
Southwestern Refining Co., Sour Lake	1,000	Lube	Op.	
Star Ref. & Prod. Co., Fort Worth	2,000	Skm.	S. D.	Fleming
State Refining Co., Dallas	1,000	Skm.	S. D.	
Sunshine Consolidated Oil Co., Wichita Falls	2,500	Skm.	Op.	
Texas Mexican Oil & Ref. Co., Laredo	750	Lube	Op.	Fleming
The Texas Co., Dallas	15,000	Comp.	Op.	
The Texas Co., Port Arthur	45,000	Comp.	Op.	Holmes-Manley
The Texas Co., Port Neches	20,000	Asph.	Op.	
Texas Best Oil & Ref. Co., Santa Anna	500	Skm.	S. D.	Holmes-Manley
Texas Oil Products Co., Waxahachie	2,000	Skm.	S. D.	
Texhoma Oil & Ref. Co., Wichita Falls	7,000	Skm.	Op.	Dubbs
Texoil Refining Co., Burkburnett	1,000	Skm.	Op.	
Tidal Western Oil Corp., Burkburnett	3,000	Skm.	Op.	
Tiger Refining Co. Breckenridge	1,500	Skm.	Op.	
Transatlantic Petroleum Co., Houston	1,000	Skm.	S. D.	
Transcontinental Oil Co., Fort Worth	5,000	Skm.	S. D.	Slagter
Travis Refining Co., Burkburnett	1,000	Skm.	S. D.	
Virginia Refining Co., Dublin	2,500	Skm.	S. D.	
Waco Refining & Pipe Line Co., Waco	500	Skm.	S. D.	
Waggoner Refining Co., Electra	3,500	Skm.	Op.	
Western Oil Sales Corp., Panther	2,000	Skm.	S. D.	
West Texas Ref. & Dev. Co., Colorado	1,500	Skm.	Op.	
White Eagle Oil & Ref. Co., Fort Worth	3,000	Skm.	Op.	Holmes-Manley
Wichita Refining Co., Wichita Falls	2,000	Skm.	Op.	
Wortham Refining Co., Wortham	500	Skm.	S. D.	
Yuba Refining Co., Nacogdoches	130	Lube	Op.	

UTAH

Company and Location—	Capacity	Type	Status May 1	Crack'g Process
Gustaveson Oil Co., Virgin	300	Skm.	Op.	Hartman
Utah Oil Refining Co., Salt Lake City	4,500	Comp.	Op.	Burton
Total	4,800			

VIRGINIA

Company and Location—	Capacity	Type	Status May 1	Crack'g Process
The Texas Co., Norfolk	5,000	Asph.	Op.	

WEST VIRGINIA

Company and Location—	Capacity	Type	Status May 1	Crack'g Process
Elk Refining Co., Falling Rock	1,000	S. & L.	Op.	
Ohio Valley Refining Co., St. Marys	1,000	Comp.	Op.	Snodgrass
Pure Oil Co., Cabin Creek	6,000	Wax	Op.	
Standard Oil Co. (N. J.), Parkersburg	4,000	Comp.	Op.	Burton, Tube-Ti
Tri-State Refining Co., Kenova	1,200	Top.	Op.	
Warner-Quinlan Co., Cairo	1,000	Skm.	Op.	
Total	14,700			

WYOMING

Company and Location—	Capacity	Type	Status May 1	Crack'g Process
Albertson, George H., Fetterman	300	Skm.	S. D.	
Alliance Oil & Ref. Co., Thermopolis	1,500	Skm.	S. D.	
Clay Spur Refinery, Clay Spur	200	Skm.	S. D.	
Continental Oil Co., Glenrock	10,000	Skm.	Op.	Burton
Continental Oil Co., Cowley	2,000	Skm.	Op.	
Lovell Refining Co., Lovell	600	Top.	S. D.	
Midwest Refining Co. and Standard Oil (Ind.), Casper (three plants)	50,000	Comp.	Op.	Burton
Midwest Refining Co. and Standard Oil Co. (Ind.), Greybull	12,000	Asph.	Op.	Burton
Midwest Refining Co. and Standard Oil Co. (Ind.), Laramie	4,000	Skm.	Op.	Burton
Osage-Upton Oil Co., Osage	300	Skm.	Op.	Fleming
Producers & Refiners Corp., Parco	12,000	Skm.	Op.	Dubbs
The Texas Co., Casper	6,000	Skm.	Op.	Holmes-Manley
United States Oil & Ref. Co., Osage	750	Skm.	S. D.	Cross
Vulcan Oil Co., Leroy	350	Skm.	S. D.	
White Eagle Oil & Ref. Co., Casper	3,000	Skm.	Op.	Holmes-Manley
Wyoming Gas & Oil Co., Upton	17	Skm.	Op.	
Total	103,017			

CENTRAL WEST FIELDS

(Continued from Page 56)

the Janera Oil & Gas Co. is drilling No. 1 Edward Bontwell, Section 14. In Liberty Township, the Ohio Oil Co. is drilling No. 22 J. Cooper, Jr., farm, Section 3.

In Bath Township, Allen County, Carman, Botkins and others' No. 6 Elsie Younkman, 600 feet from the south and east lines of the farm, Section 2, showed 45 bbls. flush. Top of sand found at 1,313 feet and the oil at 44 feet in.

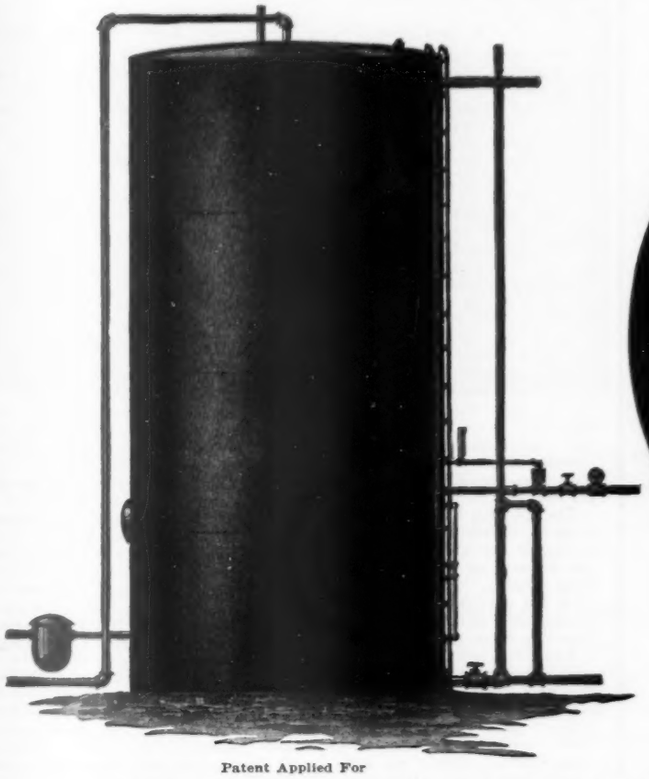
The Star Oil Co. drilled a wildcat well in the southeast corner of the George Haberkapp farm, in the northeast quarter of Section 20, Washington Township, Auglaize County, with a production of 15 bbls., and caused a considerable excitement in that vicinity.

Sandusky County, which has been quiet for many months, is now showing a little extra development. In Jackson Township, the Ohio Oil Co.'s No. 6 well, 200 feet from the south line and 540 feet from the west line of the Sylvia M. Ladd farm, Section 18, pumped 20 bbls. This is the second well of that capacity to be completed on this farm within less than three weeks. In the same township, Joseph A. Neiset's No. 6 well, 75 feet from the north line and 1,200 feet from the west line of the Lucy and Anna Miller farm, Section 17, pumped 1 bbl. Top sand found at 1,264 feet and oil at 27 feet in. In this same township, the North Lima Oil Co. is drilling No. 12 on the Edward Hummell No. 2 farm, Section 17. Frank Haubert is drilling No. 3 Martha A. Talbert, Section 17, and the Jackson Oil Co., its No. 10 T. I. Jackson, Section 16. In Washington Township, same county, Netcher and others' No. 1 on the R. Netcher farm, Section 32, a wildcat venture, is drilling.

In the Tiffin Field in Eden Township,

LEEPER Demulsifier

Sold Outright! No Royalties!



Recovers Oil from Emulsion and B.S.

Patent Applied For

1. Takes cut oil, demulsifies it and delivers pipe line oil.
2. Takes bottom sediment and reclaims the oil.
3. Operation is continuous and simple. Results are guaranteed. It quickly pays for itself by its high productive results. Attractive prices on request.

No Chemicals Required

DEALERS, advantageously located, are:
M & V Tank Co., at Wichita Falls, Vernon and Olney, Texas.
Drane-Humphrey Co., at Fort Worth and Big Lake, Texas, and Carlsbad, New Mexico.
Drane Tank Co., at Tulsa and Holdenville, Oklahoma.
May Tank and Supply Company, at Casper and Salt Creek, Wyo.
M. A. Trimmer, at Blackwell, Oklahoma.
Wilson Tank and Culvert Company, at San Antonio, Texas.

Manufactured by

STEEL BUTLER PRODUCTS

Butler Manufacturing Co.

Minneapolis, Minn. Kansas City, Mo.

Other BUTLER Products. Ready-Made Steel Buildings, Bolted Tanks, Underground Tanks, Storage Tanks, Cans, Buckets, Funnels, Measures, Pumps, Etc.

137 million cubic feet of Gas handled daily by this TRUMBLE

This Trumble Gas Separator No. 5 rated at 100 million cubic feet daily capacity is handling an average of 137 million cubic feet of gas and several thousand barrels of oil daily in the Cromwell Field. You will always find a Trumble handling *over* rather than *under* its rated capacity.

The Trumble really separates oil and gas on a practical, economical basis. It saves both oil and gas by holding the lighter fractions in the oil while the separation is taking place. Write us now for full information and prices.

TRUMBLE GAS TRAP CO.

801 Higgins Bldg.,
Los Angeles, Calif.

William C. Rae,
Sales Manager

Eastern Representative:
C. F. CAMP CO.
14 East Seventh St. (P. O. Box 289)
TULSA, OKLAHOMA

Seneca County, E. T. Robinson and others are at work at a test on the E. W. Snider, Section 15, and in Clinton Township, Arthur E. Geyer and others have a derrick up for a well on the James Shertzer farm, Section 30.

In Oregon Township, Lucas County, the Ohio Oil Co. abandoned No. 5 Catherine Grolle farm, Section 17, and in Jerusalem Township, the same company is drilling No. 13 on the R. H. and M. A. Eck farm, Section 33.

In McDonel Township, Hardin County, the Roundhead Oil & Gas Co.'s No. 1 Elizabeth McArthur farm, produced 40 bbls. from the Trenton. Top of sand found at 1,448 feet and oil at 53 feet in. R. S. Raydure is making preparation for drilling a wildcat well on the James Croos farm, Section 1, Ridge Township, Wyandot County, and has the rig up. This county in the early days of the Trenton Rock Field developed some excellent flush wells but their life was short and little has been done in the county for 20 to 25 years.

Central Ohio

Few completions are reported from the gas area of central Ohio, as many wells have been shut down at various depths, but these will naturally start up soon, as the best of weather prevails. For a month or more there have been high waters in the streams of which there are plenty in that part of Ohio, and roads off the macademized highways were in such deplorable shape material could not be moved to an advantage. With some sunshine the conditions are improving and this is noticeable in the activity displayed among some of the oldest producing companies in the East. The Carter Oil Co. is getting busy with wildcat work, and according to the new locations staked out, will drill a large number of tests through several of the counties of central Ohio. Late gas completions show this product is on the wane, especially in the old gas field, and it is true that if the gas companies want to increase their volume of gas, they will have to go outside of the real and known gas belt and do wildcatting.

The old Lodi Field of Hocking County attracts interest as occasional big oil producers are uncovered, and the same can be said of the Straitsville area of Perry County. The Gordon Oil Co. landed a test that showed 260 bbls. flush recently, and wells of that caliber are bound to bring forth other tests.

Fourteen new completions were reported from the central Ohio Field for the week. Of the number 5 were oil wells, with a flush production of 79 bbls., 1 was dry and 8 were gas wells, while on the offside areas several others were reported, mostly gas wells.

In Harrisville Township, Medina County, the East Ohio Gas Co. has a light gas well at No. 1 on the F. E. Richardson farm, Section 16. In the Chatham Field, same county, E. R. Edson & Sons Oil Co.'s No. 11 well, 500 feet from the north line and 100 feet from the west line of the George W. Packard No. 2 farm, Lot 3, Tract 14, Chatham Township, produced 2 bbls; No. 12, in the northwest corner of the same farm, only produced 1 bbl. These are the first completions from the old Chatham Field for many months.

Four new completions are reported from the Columbia Township Field of Lorain County and all were very good gas producers. The East Ohio Oil Co.'s No. 1 John Offenburg farm, known as the J. E. Greenlee farm, in Lot 31, is a good gas well. The Empire Gas & Fuel Co. made the best gas strike at No. 1 on the Thomas Armitage farm, Lot 31. Wiser Oil Co. has a good gas well in its No. 1 L. L. Ring, Lot 32, but it dwindled its production rapidly. Daugherty Brothers brought in a fairly good gasser in No. 1 F. C. Akins farm, Lot 34.

The Logan Gas Co. drilled an average gas well in No. 3 on the Jacob Sell farm, Section 17, Cannan Township, Wayne County, at a total depth of 3,300 feet, and in the Clinton sand.

In Monroe Township, Holmes County, the East Ohio Gas Co.'s No. 1 on the F. C. Close farm, Lot 9, is reported with a flush of 43 bbls. of oil. The Norwood Oil Co.," in the same township, drilled a 30-bbl. flush well at a test on the Davis Pyers farm, Lot 5. In Hardy Township, same county, the Empire Gas & Fuel Co. has an average gas well at No. 2 on the S. S. Troyer, Section 33.

In Carthage Township, Athens County, William Hawkins and others' No. 6 J. J. Gaston farm, Section 23, proved a duster in the Big Injun sand at 1,100 feet. In Troy Township, same county, Park Bowser & McBride drilled a gas well estimated at 3,000,000 feet on the Elijah Patton 58 acres, Section 36. The gas was found in the Keener sand.

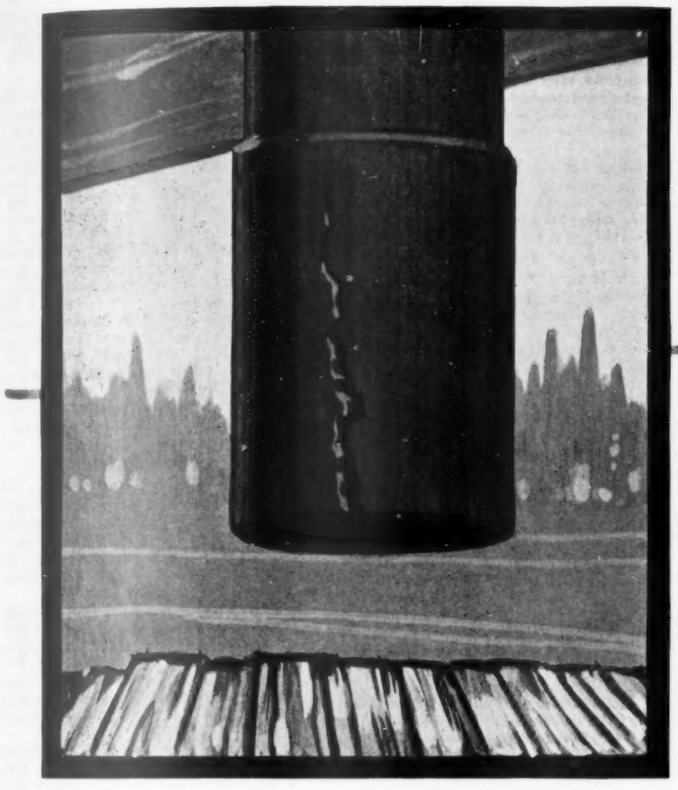
In Athens Township, Athens County, right up against the back doors of the town of Athens, the Carter Oil Co. drilled what is reported a 3-bbl. well in the southeast corner of the C. O. Lowery 88 acres, Section 31. The Stroud Run Oil & Gas Co. has an average gas well at No. 3 located 875 feet from the north line and 476 feet from the east line of the Lorenzo D. Radcliff 88 acres, Lot 259, same township.

Late New Work Starting

Close to 20 new wells have started drilling at practically that many new locations staked out in various sections of the Central Ohio Field. While the gas companies are doing the bulk of the work, some of the major oil companies are getting right busy.

The Carter Oil Co. has started active work in various counties in the eastern half of the State. This company is spudding No. 4 on the Jacob Elder 63-acre farm, Section 10, Jackson Township, Perry County, in the southeast corner of the lease. Other tests by this company are: No. 1, on the northeast corner of the L. S. Parks 83 acres, Section 22, Hopewell Township, Perry County, is a location; No. 1, drilling 800 feet from the south line and 265 feet from the east line of the Albert Sturgeon 174 acres, Section 23, same township; No. 1, drilling on the northeast corner of the J. C. Wolfe 51 acres, in the southeast quarter of Section 8, Carthage Township, Athens County; No. 1, drilling on the southeast corner of the L. N. Smith 70 acres, Lot 23, Monroe Township, Holmes County; No. 3, spudding 800 feet east of section line and 200 feet from the north line of the Robert Finley farm, Section 17, Harrison Township, Muskingum County; No. 1, drilling in the southwest corner of the Andrew Rauber 264 acres, Section 14, Washington Township, Hocking County; location staked for No. 4 well 370 feet from the west line and 600 feet north of No. 3 on the Jacob Vandenbark farm, in Hanover Township, Licking County; No. 2, rig up in the northwest corner of the Frank Phillips farm, Section 10, Perry Township, Licking County; No. 1, drilling on the northeast corner of the J. G. Leffler farm, Section 17, Brush Creek Township, Muskingum County; rig up for No. 1 500 feet north of road and 300 feet from east west lines of the S. J. Kelsey 51-acre farm, Section 9, Rush Creek Township, Fairfield County.

The East Ohio Gas Co. has rig in for a second test 300 feet from the north line and 1,300 feet from the east line of the H. Bookman 80 acres, Section 26, Hanover Township, Ashland County. Same company made a location for a test on the southeast corner of the J. Sherrick 152-acre farm, Section 18, Wooster Township, Wayne County. Same, drilling No. 3 M. G. Bird farm, Lot 8 Monroe Township, Holmes County, also its No. 4 well 1,300 feet from the north line and 600 feet from the east line of the C. M. Shanks farm, Lot 10, same township. Same, drilling No. 2 on the northwest corner of the James Allison 177 acres, Lot 9, same township. Same, drilling No. 2 L. A. Sowash farm, Section 17, Prairie Township, same county, and No. 2 on the northeast corner of the David Anderson 37 acres, same section. In Hardy Township, same county, same company is drilling No. 4 James Uhl, Section 23, and its No. 2 well, 525 feet from the south line and 975 feet from the east line of the Harriett McCullough 85 acres, Section 30. In the same township, the same company made a location for No. 2 on the southeast corner of the Dave R. Anderson 100 acres, Section



The Price $2.20

The Cost $10,000

IT WAS probably a good weld, but welds don't belong on couplings. This one caused a six weeks fishing job at a cost of $10,000, and let a rival win the race to pay sand; all because someone thought he was making money when he saved $50.00 on a purchase of ordinary couplings.

It is unfortunate that some operators need a disastrous accident to learn that the price of couplings is so small when compared with their importance that only the best are worth using at all. When a few dollars may mean the difference between failure and success, why not *insist* on Harrisburg Forged Seamless Steel Couplings. They have no weld —no weakness, no piping to crack or develop leaks. Accurate threads and perfect taper insure easy stabbing and a tight seal. And Harrisburg uniformity is as dependable as its performance.

Stocked and sold by leading supply houses.

HARRISBURG PIPE & PIPE BENDING COMPANY
Harrisburg, Pa.

DISTRIBUTORS:
Harrisburg Pipe & Pipe Bending Company, of Texas, Inc., Houston, Texas
Harrisburg Supply Co., Tulsa, Okla. **Superior Tube Co., Tulsa, Okla.**

HARRISBURG
Forged Seamless Steel Couplings

223

Thread Your Pipe On The Job

Not Back In The Shop

Why make your men run back to the shop to thread pipe when they can do it better, cheaper and quicker right on the job?

Put an Oster 402 Power Drive on your truck when you are putting in a line and hook it up to any light socket. Threads, cuts-off and makes up a fitting in less than four minutes.

Equipped with self-centering chuck and Oster No. 104½ Bull Dog Die Stock. An auxiliary shaft for driving geared die stocks increases range to 6 inch pipe.

No adjustments to make, nothing to get out of order and so simple a green boy can operate it. Ask for a demonstration at your supply house or write us now for complete information.

OSTER

The Oster Manufacturing Company

Manufacturers of the most complete line of pipe threading equipment in the world.

2089 E. 61st Place, Cleveland, Ohio

24, and for No. 4 on the J. R. Forgy 60 acres, Section 9. Same company is drilling No. 1 on the southeast corner of the Miller L. Pyers 40 acres, Section 8, Kilbuck Township, Holmes County.

The Logan Gas Co. is drilling a test on the Sylvia A. Ives farm, Lot 74 Columbia Township, Lorain County. This company after reaching a depth of 2,600 feet failed to find any signs of the Clinton sand on the wildcat on the Henry T. Thudium farm, in Lot 2, New London Township, Huron County, and is going to test out the Trenton Rock formation. This company is delayed with its test on the southwest corner of the D. W. Hemming 78 acres, Section 24, Cannan Township, Wayne County, by a damaged rig by fire at a depth of 2,185 feet.

In Monroe Township, Holmes County, Poe & Ewing are drilling No. 4 on the northwest corner of the Albert R. Mackey 46 acres, Lot 6. In the same township, the Empire Gas & Fuel Co. is drilling No. 1 well 600 feet from the north line and 300 feet from the west line of the William Martin 100 acres, Lot 22. In Prairie Township, same county, the Empire Co. is drilling No. 1 on the northeast corner of the Bryon Kendall 75 acres, Section 17. In Monroe Township, the Norwood Oil Co. is drilling No. 2 on the W. R. Parson farm, Lot 5.

The Pure Oil Co. is getting busy of late. This company is starting No. 3 well in the northeast corner of the William H. Miller 71 acres, Section 18 Prairie Township, Holmes County; No. 1 is a rig on the southeast corner of the Margaret Miller 122 acres, same section, and No. 2 location in the southeast corner of the Lee Durbin 50 acres, Section 17, same township.

In Hardy Township, Holmes County, the Empire Gas & Fuel Co. is starting a test 1,060 feet from the south line and 300 feet from the east line of the Mary E. Bridges 100 acres, Section 5, and No. 1, on the southwest corner of the Dell Walton 46 acres, Section 5, Kilbuck Township, same county.

In Carthage Township, Athens County, William Hawkins and others are drilling No. 1 on the northwest corner of the W. F. Chapman 131 acres, Section 31, and Sweeney & Snodgrass are drilling a second test on the southwest corner of the L. H. Allen 202 acres, Section 30.

Offside Developments

In Knox County, Brown Township, Section 14, the East Ohio Gas Co. drilled a fair gas well in No. 2 J. J. Reed farm. This company's No. 1 Charles Scholes farm, Section 29, same township, shows for 1 bbl.

In Jefferson Township, Knox County, the Upham Gas Co. struck a duster at a test on the J. A. Blubaugh farm, Section 19, and in Harrison Township, same county, A. J. Weidman and others' No. 2 John M. Purdy, Section 25, shows for about 3 bbls.

In Carthage Township, Athens County, the Carter Oil Co.'s initial well on the C. R. Coen farm, Section 19, is reported a duster in the Big Injun sand.

The Muskingum Gas Co. drilled a good gas well on the J. P. Lawton fractional Lot 1,028, Barlow Township, Washington County, the source of production being in the Big Injun sand. Same company's well on the H. B. McVicar fractional Lot 709, same township, was dry in the same formation at 1,307 feet.

Ross Brothers' No. 2 fractional Lot 706, Barlow Township, Washington County, owned by James Waterson, is a very light gas well in the Maxon sand. Same parties drilled a dry hole in No. 4 on the H. J. Waggoner farm, Section 4, Fairfield Township, same county, in the Maxon sand.

Schultz, Pollard and others drilled a fair gas well in No. 3 Neal Shaw farm, Section 30, Dunham Township, Washington County, getting the gas in the Maxon sand.

The Preston Oil Co.'s No. 15 J. M. and E. M. Hamilton farm, Section 21, Starr Township, Hocking County, is showing for a 5-bbl. well in the Clinton sand.

Ohio Fuel Supply Co. made a location in the southwest corner of the Anna O'Donnell 33 acres, shown on the map as the Louisa Johnson farm, Section 14, Washington Township, Hocking County, and is an important test.

The Logan Gas Co. is drilling a test well on the J. J. Klein farm, Section 17, Salem Township, Tuscarawas County.

Indiana

Three completions were reported from the Princeton Field of southwestern Indiana the past several days, the best of which was the Consolidated Oil Co. and Nelson, in a test on the southwest corner of the G. W. Taylor farm, in the southwest quarter of Section 9, with a flush of 45 bbls. Top of sand found at 1,293 feet and drilled 26 feet in to a total depth of 1,319 feet. The Ohio Oil Co.'s No. 1 on the southwest corner of the Bella Wilson farm, in the northwest quarter of Section 16, pumped 8 bbls. These two wells are in Monroe Township, Pike County. In Logan Township, same county, H. E. Merrifiield, trustee, drilled No. 8 well 640 feet from the north line and 580 feet from the west line of the B. Shafer farm, Section 23, and struck an 8-bbl. pumper. Sand was found at 1,038 feet and oil 12 feet in.

Illinois

Illinois fields reported three new wells the best being a 2-bbl. pumper drilled by Shrider, Coats and others, 200 feet from the north line and 1,120 feet from the east line of the Nettie Brisco farm, Section 32, Parker Township, Clark County. The oil was tapped at 455 feet.

In Lawrence township, Lawrence County, A. B. Bement drilled in a duster at a test 600 feet from the south line and 250 feet from the east line of the William Filbert farm, in the northeast quarter of Section 5. The well was drilled through the McClosky sand, to a depth of 1,940 feet.

In Irvington Township, Washington County, the Petro Oil & Gas Co. drilled a dry hole in the southeast corner of the J. D. Norton farm, in the northeast quarter of Section 25, and went to a depth of 836 feet.

KENTUCKY-TENNESSEE

(Continued from Page 56)

Stewart, drilling at 211 feet; J. H. Richards' No. 1 K. S. Bland, drilling at 319 feet; Hinson & Co.'s No. 1 H. H. Hester, cleaning out after shot; Beaver Petroleum Co.'s No. 8 Covington, drilling at 42 feet; Zimmer and others' No. 9 John Covington, drilling at 12 feet; J. C. Anderson's No. 9 Al Covington, drilling at 126 feet.

In the Davenport Pool, T. A. Sheridan's Nos. 7, 8 and 9 drilling at 450, 642 and 400 feet respectively; Onsel-Hanrahan's No. 4 Davenport, rigging; Westland Oil Corp.'s No. 28 C. A. Keller, drilling at 650 feet; Wood Oil Co.'s No. 8 Grimes, cleaning out; No. 9 spudding; George McGinley's No. 6 Wilson, drilling at 427 feet. In the eastern portion of the county, Stewart & Bannon are rigging up to drill No. 22 Cox.

Barren County

The recent cut in crude bringing the posted price in Barren County to $2.30 per barrel has served to lessen operations in that field as the wells are small and operators are not anxious to drill proven locations at the present price.

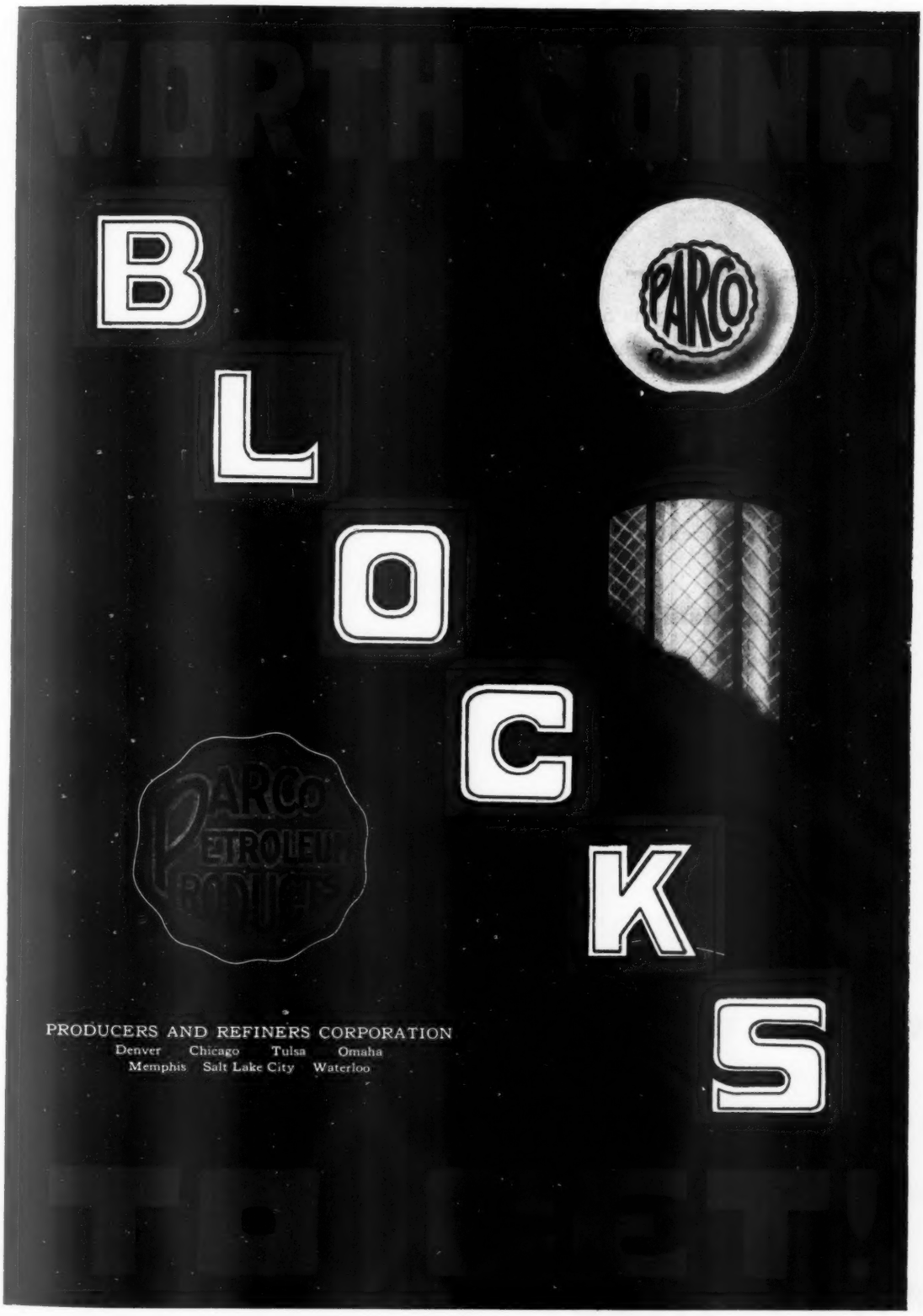
The Star Oil Co.'s No. 17 Ritchie, in the Emery-Moore Pool, made 16 bbls. the frst pumping at 185 feet below the shale. The Kopel Oil Co.'s No. 7 Childress, same district, showed for 8 bbls. at 35 feet below the shale.

In the Gorby Pool, south of the Emery-Moore area, T. L. Gorby finished No. 2 on the S. Chamberlain for 15 bbls. at 200 feet below.

On the Dodder tract, near Oil City, Reese and others' No. 2 Dodder pumped 3 bbls. at 450 feet.

Drilling Activities

In the Emery-Moore Pool, the Star Oil Co.'s No. 1 Starr, Sr., is drilling at 320 feet; Houchins Leasehold Co.'s No. 7 Ziegler Brothers, drilling in the pay sand; Ziegler Brothers No. 6 Drennan is being drilled to the deeper pay, the shallow sand above the shale which was making amber oil having played out. Ziegler


BLOCKS
PARCO
PARCO PETROLEUM PRODUCTS
PRODUCERS AND REFINERS CORPORATION
Denver Chicago Tulsa Omaha
Memphis Salt Lake City Waterloo

Four Big Points in "COLUMBUS" Sucker Rods

1. Check Analysis—

We make a check analysis of all our steel to insure uniform quality.

2. Scientific Design—

Our improved design, accurate threading and tool joint shoulder fit has met the approval of the field.

3. Workmanship—

Every rod shows evidence of skillful workmanship produced with special machining equipment.

4. Service—

The rapidly growing demand for "COLUMBUS" Sucker Rods proves they are giving a maximum service in actual use.

Ask Your Supply House or Write

The Columbus Sucker Rod Company

Columbus, --:-- Ohio

"Columbus" Sucker Rods

Brothers' No. 1 Green, drilling at 275 feet; Fred Moore's No. 10 in fee, is on top of the deep sand; Carter Oil Co.'s No. 7 Gooden, drilling at 350 feet; Star Oil Co.'s No. 18 Ritchie, cleaning out after shot.

In the Hall-Baker Pool, north of Glasgow, the Wood Oil Co.'s No. 1 Martin, drilling at 320 feet; No. 1 Grover Evans. 342 feet; N. 2 Duff is showing for a good pumper in the deep pay; Pritchard, Messenger & Gum's No. 1 Bradford, dry at 100 feet below the shale. This test is being drilled down to the next pay at 180 to 190 feet below the shale. Wood Oil Co.'s No. 1 Harvey & Duff found the black shale at 490 feet, much lower than expected, and is now drilling in that formation. Harrington & Norris' No. 4 Evans is being cleaned out after a shot; Consolidated Gas Co.'s No. 3 Bradford, drilling in the shale; Carter Oil Co.'s No. 1 Joe Harlow, drilling in the shale; the Dirty Five Oil Co., rigging up to drill No. 1 Allison at Temple Hill.

In the Gorby Pool, Porter and others' No. 4 McLaughlin, drilling at 319 feet; T. L. Gorby's No. 3 Cassidy, drilling at 180 feet; same parties' No. 1 Everett, fishing at 300 feet; Lewis J. Emery, Jr., & Sons' No. 1 Jones, drilling at 300 feet. At Coral Hill, the Esslinger Oil Co.'s No. 3 Jones is waiting on a shot at 437 feet where a good showing of oil was had.

Eastern Division

Twenty-three of the thirty-eight completions recorded in the State the past week are credited to the Eastern division. Fifteen were producers with a flush of 231 bbls., 4 dusters and 4 gas wells.

In the North Weir Field, the Union Gas & Oil Co.'s No. 9 C. K. Dobyne made 40 bbls. flush from the Weir sand. In District No. 22, Garrison & Townsend finished three producers; No. 2 J. N. Sparks made 15 bbls.; No. 5 Foster Ferguson, 12 bbls., and No. 18 C. K. Dobyne, 200 bbls. The trio were drilled to the Weir sand.

Morgan County

Morgan County came to the fore with a 20-bbl. pumper credited to R. G. Gillespie. It was No. 5 on the Sam Blanton tract.

Several new wells will be started immediately in this county; two companies, the Petroleum Exploration and the Leonard Oil Co., will start one each in new territory, which experts say is excellent territory for the finding of both oil and gas.

A local company has been organized at West Liberty to drill and develop several thousand acres and there is much excitement. Work will begin immediately by the company under the supervision of L. L. Shadoin of Lexington, who states that $250,000 will be spent this summer in developing the new field.

Wayne County

It is reported George Smith's No. 1 Burnett heirs, at Burfield, is good for 50 bbls. in the Beaver sand. In District No. 3, Shearer & Dillons' No. 1 Griffin is estimated at 12 bbls. from the Beaver; Marsh and Shearer's No. 5 J. A. Brown made 20 bbls. the first pumping from the Beaver sand.

In District No. 2, Wright and Bell's No. 1 Elem pumped 3 bbls. from the Beaver sand.

Other Completions

In the Lee-Owsley Counties Field, the Petroleum Co.'s No. 7 Gurley, Redman and McGuire, 7 bbls. at 1,200 feet; Atlantic Oil Producing Co.'s No. 2 Hamp Flannery, dry; Jewell & Hobbs' No. 1 Flannery, 1,200 feet west of the Quillian, dry; Mart Davis' No. 2 on White Oak Creek, dry.

Federal Oil Corp.'s No. 5 E. B. Roberts, District No. 9, Wolfe County, 5 bbls. from the Weir sand; McCombs Producing & Refining Co.'s No. 9 Ann Horton, 4 bbls.

Upchurch and others finished a gasser estimated at 1,500,000 feet of gas at 1,000 feet in Jackson County. This test is of much interest as it is in untested territory. It is 4 miles from McKee, near a dry hole recently drilled by the Standard Oil Co.

In Estill County, the Adams Oil Co.'s No. 16 James Arthur, District No. 7 tested 2 bbls. at 400 feet.

In Floyd County, the American Rolling Mills Co. finished three good gas wells in the Sumit area. The Carter Oil Co.'s No. 1 C. D. Potnack is reported dry.

In the South Weir Field of Johnson and Magoffin Counties, Hudson & Collins' No. 7 H. Grace, District 29, tested 15 bbls. from the Weir sand.

In Fleming County, Dr. Connley's No. 1 test between Colfax and Grange City, pumped 5 bbls. at 230 feet.

JOHNS HOPKINS CHAIR FOR GAS ENGINEERING

A chair of gas engineering has been founded at Johns Hopkins University, Baltimore, Md. This course is intended to instruct not only students who are planning to enter the gas industry but also for the education of men already engaged in the gas utilities. The course will be so arranged that not only men who already have technical knowledge can perfect themselves further in the science of the business, but also men who have no technical training but desire to acquire such. For the latter, there will be a regular four-year undergraduate college course, leading to a degree in gas engineering. All students entering this course must be graduates of approved high schools or preparatory schools.

It is expected that a large part of the laboratory work during the last two years of the course will be in plants of gas industries in or near Baltimore.

Prof. Wilbert J. Huff has been appointed professor of gas engineering.

TO TEST GAS STATUTE

OKLAHOMA CITY, Okla., April 25.—Attorney General George Short has filed a case in the Supreme Court to test the constitutionality of a provision of the Oklahoma statute that forbids issuance by the Secretary of State of a charter to a concern to engage in the transportation of natural gas that will not agree in writing in the charter to refrain from piping natural gas outside the State. Secretary of State R. A. Sneed recently refused to issue a charter to the Industrial Fuel Co. because the applicants for the charter would not enter into such agreement.

VIRGINIA ASKS NICKEL TAX

RICHMOND, Va., April 25.—Funds for highway construction in Virginia would be increased to $12,000,000 a year, the amount asked by the State Highway Commission, by a plan to levy an additional 2 cents gasoline tax, suggested by G. P. Coleman, former State highway commissioner. Coleman's plan would empower the Governor to issue short term notes based on the tax, sufficient to carry on State road construction for five years at the rate of $12,000,000 a year. The present gasoline tax, the proceeds of which go to roads, is 3 cents a gallon.

BUYS EL DORADO CO.

EASTLAND, Tex., April 25.—Purchase of the El Dorado Gas and Oil Co. for $50,000 by J. E. Lewis of Eastland, has been announced by the El Dorado Gas & Oil Co. in Ranger. Two producing wells, acreage, pipe lines and drilling tools were included in the sale. J. E. Lewis is vice president and general manager of the Oil Belt Power Co. and the Oil Cities Electric Co.

MARCH MOTOR OUTPUT

National Automobile Chamber of Commerce estimates March motor output at 362,305 cars and trucks, a gain of 29 per cent over February. The chamber states: "The manufacture of motor vehicles during the winter has been on a conservative basis in response to orders from the field. Accordingly, stocks in dealers' hands are light and the industry looks for very active production during the next few months."

OKLAHOMA

The Comar Oil Co. has completed No. made 365 bbls. the first 24 h

Valuations Appraisals Reports

Public Utility-Industrial

For RATE CASES — INCOME TAX
SECURITIES — INSURANCE

SPECIALISTS IN NATURAL GAS, GASOLINE and OIL PROPERTIES

EXPERTS IN FINDING VALUES!

RESULTS GUARANTEED
ADDRESS APPRAISALS DIVISION

A. H. WALKER & CO.

GENERAL PURCHASING

For
Oil Companies, Banks, Public Utilities, Corporations, Railroads, Industries, Mines, Merchants, Engineers, Contractors, Architects, Municipalities, Institutions, Individuals.

PROPERTY EXAMINATION AND PURCHASE

56 Wall Street, New York

ATLANTA	BOSTON	CHICAGO	CLEVELAND	SEATTLE
DENVER	DETROIT	MINNEAPOLIS	DALLAS	TULSA
PITTSBURGH	SALT LAKE	SAN FRANCISCO	NEW ORLEANS	

¶An Electrically Operated, Time Controlled Detonator for Shooting Oil Wells.

One of the chief concerns of the manufacturers of Zero Hour Electric Bomb has been to produce a detonator that would be dependable—that would explode the shot when wanted, that would take the worry of uncertainty off the producer's mind.

ZERO HOUR ELECTRIC BOMB

—dependable because

THE CAST IRON SHELL is proof against all influences that would tend to stop or even retard action.

THE TIMING MECHANISM is the most accurate obtainable.

THE BATTERY is powerful enough to set off ten caps —one is sufficient to explode the charge.

THE PLATINUM FIRING PIN and switch assure a perfect contact.

EXHAUSTIVE TESTS at factory and well assure dependable performance.

Complete shooting records show that Zero Hour Electric Bomb explodes, on the average, within two minutes of the time intended.

No wonder Zero Hour Electric Bomb is specified as standard shooting practice by Midwest Refining Co.; is used by Gypsy, Phillips Petroleum, J. A. Hull, T. B. Slick, Davis & Hazlette, Pryor & Lockhart and many other large Midcontinent producers.

Zero Hour Torpedo Co.
General Office P. O. Box 2100
CASPER, WYOMING
Tulsa, Oklahoma 710 Cosden Bldg.
Dial 2-9612 Night Dial 3-1775
Eureka, Kansas
219 S. Elm St. Phone 774

ZERO HOUR TORPEDO CO.
P. O. Box 2100 Casper, Wyo.

Please send me a copy of your

FREE BOOKLET

"Oil Well Shooting: Past and Present."

Name .....

Firm .....

Address .....

OKLAHOMA

(Continued from Page 36)

swabbed 40 bbls. from sand 2,927-39 feet. It is being cleaned out. The Phillips Petroleum Co. has a rig on the ground for No. 3 Penn, C south half SE NW Section 24-14-9. F. R. Billingslea's No. 3 Micco, SW cor. NE NE Section 28-14-9, is drilling at 470 feet. F. R. Billingslea has a rig on the ground for No. 4 Micco, NW cor. NE NE Section 28-14-9.

C. B. Peters' No. 3 Harry, SW cor. NW SE Section 4-14-10, is drilling at 480 feet. The Prairie Oil & Gas Co. is spudding No. 2 Loring, NE cor. NW NW Section 20-14-10. H. F. Wilcox Oil & Gas Co.'s No. 5 Scott, NW cor. SW NE Section 20-14-10, has 2,700 feet of oil in the hole from sand 3,337-61 feet. It is drilling ahead in sand. H. F. Wilcox Co. is spudding No. 9 Scott, SE cor. NE. Secetion 20-14-10. E. L. Kistler's No. 3 Scott, SW cor. NW Section 21-14-10, is drilling at 500 feet.

The Transcontinental Oil Co. has a rig on the ground for No. 1 Toney, SE cor. NE Section 24-17-7.

The Sinclair Oil & Gas Co.'s No. 8 Bruner, SE cor. NE SE Section 33-17-7, is dry and abandoned at 1,475 feet. It is an old well drilled deeper. The Sinclair Oil & Gas Co.'s No. 11, SE cor. NE SE Section 33-17-7, is spudding. It is a twin to No. 8.

The Cortez Oil Co.'s No. 6 Wilson, NW cor. SE NW Section 22-16-8, made 300 bbls., 50 per cent water, the first 24 hours from sand 3,142-47 feet. It quit flowing and the owners are now trying to revive it.

Madden & Madden's No. 3 Bishop, NW cor. SW SW Section 13-17-8, is drilling at 340 feet. The Transcontinental Oil Co.'s No. 1 Bishop, SW cor. NW SW Section 13-17-8, is a new rig. The Atlantic Oil Producing Co. has spudded No. 4 Johnson, NE cor. SW SE Section 14-17-8. The Aztec Oil Co. is spudding No. 3 Johnson, NW cor. SE SE Section 14-17-8. Waite Phillips Co.'s No. 4 Grayson, SW cor. NE NE Section 23-17-8, is dry and abandoned at 3,134 feet.

The Transcontinental Oil Co. has a rig on the ground for No. 1 Morrison, SE cor. NW NE Section 25-17-8. The Phillips Petroleum Co.'s No. 2 McIntosh, NW cor. SW NE Section 24-14-9, is dry and abandoned at 3,150 feet.

Hubbard Pool

The Marland Oil Co. and Amerada Petroleum Corp.'s No. 1 Richmond, SE cor. NW Section 1-26-2w, made 305 bbls. from sand 2,046-55 feet. The Prairie Oil & Gas Co.'s No. 1, NW cor. SE Section 1-26-2w, is good for 316 bbls. of oil and 20,000,000 feet of gas from sand 2,530-43 feet. Number 2, NE cor. NW SE Section 1-26-2w, is making 810 bbls. oil and 35,000,000 feet of gas from sand 2,530-37 feet. The Marland Oil Co.'s No. 5, north NW cor. NE NE Section 12-26-2w, made 170 bbls. oil and 5,000,000 feet of gas from sand 2,534-49 feet.

The Comar Oil Co. has completed No. 2 Duncan, SE cor. NE SW Section 21-29-1w, for 247 bbls. natural from sand 1,927-30 feet. The Vernon Oil & Gas Co. is spudding No. 1 Fisher, SW cor. NW SW Section 21-29-1. The Anolu Oil Co. is building the rig for No. 1, SW cor. SW Section 8-27-1w. The Prairie Oil & Gas Co., has a rig on the ground for No. 3 Jones, SW cor. NW Section 10-27-1w, and is building the rigs for No. 6 Vanetta, NE cor. SW SE Section 1-26-2w, and No. 5 Vanatta, SE cor. NW SE Section 1-26-2w.

Watchorn Pool

The Watchorn Oil & Gas Co. has completed No. 7, SE cor. SW Section 33-23-3. Sand was 4,091-4,144 feet, and the well is swabbing 100 bbls. per day. The Magnolia Petroleum Co.'s No. 2 Ely, NW cor. NE Section 4-22-3, is dry and abandoned at 4,127 feet.

Tonkawa

The Texas Co. has completed No. 4 Gilbert, SW cor. SE SW Section 27-25-1w, for 1,619 bbls. naturally from sand 4,189-4,210 feet. The Comar Oil Co. has completed No. 19-W Clements, NW cor. NE NW Section 34-25-1w, for 1,138 bbls. naturally from sand 4,138-80 feet. The Comar Oil Co. has completed No. 19-W Blubaugh, SE cor. NE SW Section 2-24-1w, for 841 bbls. naturally from sand 4,151-4,255 feet.

Pawnee County

Haley, Garber and others' No. 1 Phillips, SE cor. NW NE Section 5-23-5, had 1,500 feet of oil in the hole from sand topped at 3,186 feet. The present depth of the well is 3,201 feet. The Noble Oil & Gas Co. is spudding No. 1 Smith, SW cor. NW Section 26-23-5. The Magnolia Petroleum Co. is spudding No. 1 Burns, NE cor. SW Section 8-22-5. The Prairie Oil & Gas Co.'s No. 1 Riggs, had a show for a 5-bbl. well from sand 2,525-65 feet. It is drilling ahead at 2,670 feet.

The Magnolia Petroleum Co.'s No. 6 Lasher, SE cor. NE Section 21-20-6, is drilling at 2,500 feet. It is an old well drilled deeper. The Superior Oil Corp.'s No. 1 Gillespie, SW cor. NW NE Section 9-20-7, topped the Bartlesville sand 2,725 feet, had a show of black oil in the top; water 2,751-53 feet; plugged back to gas sand 2,585-2,600 feet and is estimated at 5,000,000 feet of gas.

The Sun Ray Oil Co.'s No. 4 Canfield, NE cor. SE SE Section 17-20-7, is drilling at 650 feet. The Tidal Oil Co.'s No. 5, NW cor. SE Section 24-20-8, is drilling at 2,800 feet. This is an old well drilled deeper and a twin to No. 3. The Southwestern Oilfields Co.'s No. 9, NW cor. SE NW Section 24-20-8, is drilling at 2,660 feet. Adamson and others have completed No. 1, SE cor. SW SW Section 32-21-8, for 7 bbls. from a total depth of 2,572 feet. Holmes and others No. 2 Stoneman, SW cor. SE SE Section 28-20-9, is drilling at 300 feet.

Lincoln County

H. C. Wilson's No. 1 Johnson, SW cor. NE Section 20-17-6, is drilling at 418 feet.

Riverland Pool

The Riverland Oil Co. has a rig up for a twin well, No. 1 Inchoe, NW cor. NW Section 35-19-11. The Simmons Oil Co. has completed No. 3-A Partridge, SW cor. NE NW Section 4-19-12. Sand was 1,983-86 feet, and the well is good for 75 bbls.

Sand Springs Home's No. 7 Berryhill, CEL SE NW Section 5-19-12, has been completed. Wilcox sand was 1,962-70 feet. Turkey Mountain sand 2,058-63 feet. The well was shot with 20 quarts in the Turkey Mountain sand, and is producing 25 bbls. Sand Springs Home's No. 9 Berryhill, SE cor. NW Section 5-19-12, is drilling at 820 feet.

Grady County

Hall and others' No. 1 Maddox, C SW SE Section 10-5n-8w, is an abandoned rig. The Cotton Patch Oil Co. has completed No. 1 Moore, NE cor. SW NW Section 14-5n-8w, for 1,000,000 feet of gas in sand from 3,169-79 feet. The Oklahoma Natural Gas Co. is rigging up rotary tools for No. 4, NE cor. NW SW, Section 23-5n-8w. The Skelly Oil Co.'s No. 1 Meelly, SE cor. NE NW Section 23-5n-8w, is showing oil from sand topped at 3,096 feet. The Nichols Oil & Development Co.'s No. 3 Chandler, SE cor. NW SW Section 26-5n-8w, is completed for 62,000,000 feet of gas from sand 2,064-2,504 feet. Stogner and others have skidded the rig six feet north and are drilling at 294 feet in No. 1 Glover, C SE SW, Section 35-5n-8w.

Sultan and others have completed No. 1 Bennett, SW cor. SE Section 15-5n-7w, for 15,000,000 feet of gas from sand 1,964-2,021 feet. They have a rig up for No. 1 Sturdevant, CEL SE SW Section 15-5n-7w. Joe Ray and others' No. 1 No Name, SE cor. SW Section 16-3n-5w, had a small show of oil in sand 1,120-25 feet, and are drilling ahead at 1,145 feet.

Briscoe & Nelson have completed No. 1 Dryden, CSE SW Section 2-4n-8w, for 20,000,000 feet of gas from sand 1,367-1,427 feet. The Magnolia Petroleum Co. is building the rig for No. 1 Welch, CNE NW Section 11-4n-8w. The Magnolia Petroleum Co. is rigging up rotary tools for No. 2 Welch, C SE NW, Section 11-4n-8w.

Jefferson County

The Prairie Oil & Gas Co.'s No. 3 James, NW cor. SW Section 34-6s-5w, made 365 bbls. the first 24 hours, and 155 bbls. the third 24 hours from sand 1,200-12 feet.

South Welcetka Pool

The Mid-Kansas Oil Co.'s No. 3 Byrd, NW cor. NE SE Section 4-9-11, had a 100-bbl. show in sand 2,922-39 feet, and will shoot. The Tidal-Osage Oil Co. is building the rig for No. 2 Harjo, SW cor. SE NE Section 4-9-11.

Stephens County

The Knox Petroleum Co.'s No. 1 Indian land, SE cor. SE Section 11-2s-5w, is estimated at 40 bbls. oil and 30 bbls. water from sand 1,412-19 feet. Its No. 5 Prine, SW cor. NW Section 12-2n-5w, is estimated at 5 bbls. from sand 1,489-97 feet. It is shut down for fuel at 1,560 feet.

Rogers and others are rigging up a rotary for No. 1 Truitt, NW cor. NW Section 13-2n-5w. E. P. Kilgore's No. 1, No Name, NW cor. SW NE Section 2-1n-5w, had a show of gas 950-953 feet, show of oil at 1,035-40 feet, water at 1,035-58 feet, and is drilling ahead.

The Magnolia Petroleum Co.'s No. 1 Hardin, SW cor. SE Section 18-1s-3w, is swabbing 130 bbls. from sand 3,060-3,145 feet. Levant and others' No. 2 Brewer, SW cor. NW SW Section 27-1s-3w, is swabbing 170 bbls. from sand 3,308-13 feet. Westheimer & Daube's No. 1 Newsteadt, SW cor. SW Section 27-1s-3w, is completed for 20 bbls. from sand 3,050-60 feet. The Humble Oil Co.'s No. 3 Hales, SE cor. NE SE Section 28-1s-3w, had gas 3,172-79 feet, broken sand 3,187-3,207 feet, total depth 3,217 feet, and is estimated at 270 bbls. The Humble Oil Co.'s No. 1 Tate, NE cor. SE NW Section 32-1s-3w, is spudded. The Magnolia Petroleum Co.'s No. 4 Hart, NW cor. SW NE Section 32-1s-3w, is being rigged up. The Magnolia Petroleum Co. has completed No. 1 NW cor. NE SW Section 34-1s-3w, for 35 bbls. from sand 3,282-96 feet.

Winkler and others' No. 1 Coffelt, NE cor. SE SE Section 26-1n-9w, is dry and abandoned at 2,350 feet. The Kay-Wye Petroleum Co.'s No. 1 Hine, C NW SW, Section 25-1n-9w, is drilling at 100 feet, and No. 1, SE cor. NW SW Section 25-1n-9w, is rigging up to drill an old well deeper. The Magnolia Petroleum Co. has a rig up for No. 1 Woolsey, NE cor. NW SE Section 26-1n-9w.

Carter County

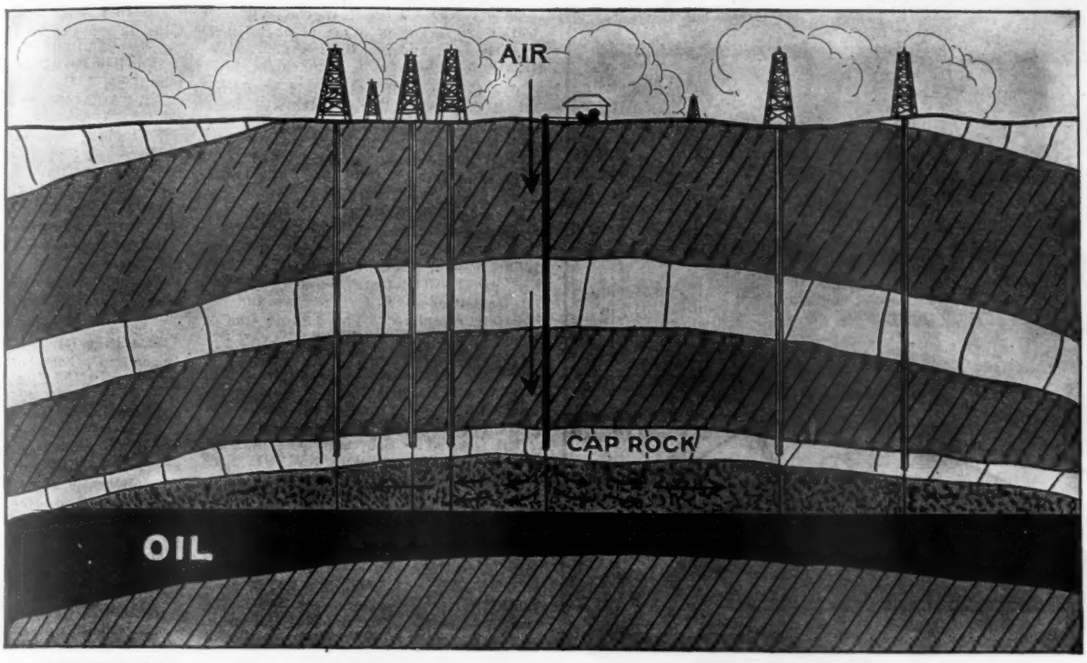
Westheimer & Daube have completed No. 1, SW cor. SW Section 27-1s-3w, for a 35-bbl. pumper from sand 3,050-60 feet. The total depth of this well was 3,508 feet and it was plugged back. The 6-inch casing was run to the bottom of the hole and perforated from 3,050-60 feet.

The Tidal Oil Co. has completed No. 1 Morgan, SE cor. NW Section 28-1s-3w, for a 50-bbl. well from sand 3,407-51 feet. The Humble Oil Co.'s No. 1 Tate, NE cor. SE NW Section 32-1s-3w, is rigged up and shut down. The Magnolia Petroleum Co. is pumping 150 bbls. a day from No. 3 Hart, NE cor. SW NE Section 32-1s-3w, sand was 2,740-48 feet, total depth 2,752 feet. The Coline Oil Co.'s No. 6-A Pierce, a twin well to No. 6, NE cor. SE Section 12-2s-3w, is drilling at 100 feet.

Wirt Franklin has a rig up for No. 2 McCowan, NE cor. SW SW Section 20-2s-3w. The Magnolia Petroleum Co. has a rig up for No. 9 Williams, SW cor. SE Section 23-2s-3w. C. R. Smith's No. 3 Davis, SE cor. SW Section 22-2s-3w, is drilling at 500 feet. The Twin States Oil Co.'s No. 5 Davis, C N half NE SW Section 23-2s-3w, is drilling at 200 feet.

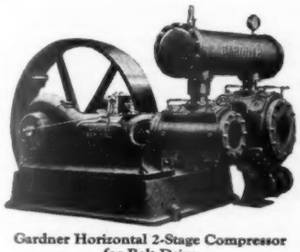
The Magnolia Petroleum Co. has a rig up for No. 6 Smith, NE cor. SW SW Section 24-2s-3w. Wirt Franklin has a rig up for No. 2-A Brooks, C N half NE NE Section 25-2s-3w. The Empire Gas & Fuel Co. is rigging up a rotary for No. 13 Williams, SW cor. SE NE Section 34-2s-3w. The Cotton Belt Oil Co. is rigging up No. 6 Ellis, NE cor. SW NW Section 30-2s-3w. The Magnolia Petroleum Co. has a 25-bbl. well in No. 4 Bennett, CEL SE SW NW Section 31-2s-2w. Sand was 2,510-55 feet, total depth was 3,008 feet, and the well was plugged back.

The Amerada Petroleum Corp. has

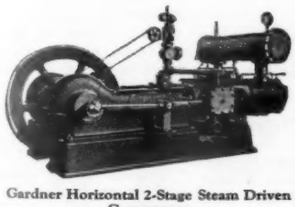


FROM 3½ BBLS. DAILY TO 38 BBLS.

By Building Up Rock Pressure With Compressed Air



Gardner Horizontal 2-Stage Compressor for Belt Drive



Gardner Horizontal 2-Stage Steam Driven Compressor

The wells on an old Midcontinent lease owned jointly by two of the world's largest producing companies were recently producing a total of only 3½ barrels of oil a day. Compressed air was put on the sand through one of the wells, building up the rock pressure of the pool. Daily production immediately increased and has averaged about 38 barrels since.

GARDNER 2-Stage Compressors, in 10 & 5 x 10 and 12 & 6 x 12 sizes, steam or belt drive, for pressures up to 500 pounds, are widely used to build up rock pressure, to place air lift on oil wells, and for cleaning out. Ask for descriptive literature.

"Quality Builders for Over 65 Years"

THE GARDNER GOVERNOR COMPANY
Quincy, Illinois

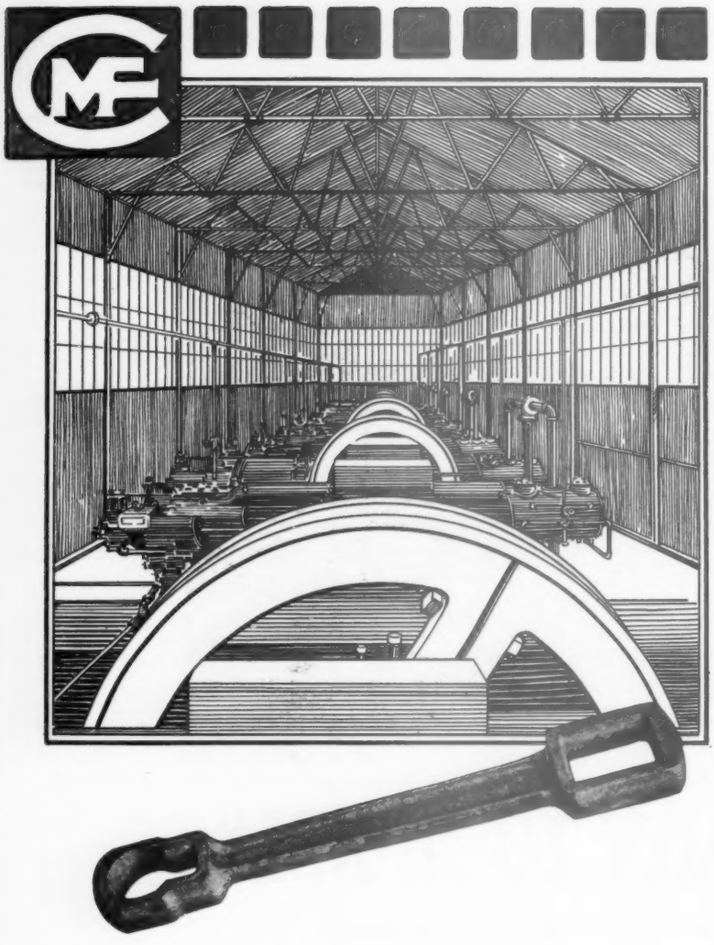
CHICAGO 549 W. Washington Blvd. | NEW YORK 534 Singer Bldg. | PHILADELPHIA 604 Arch St. | HOUSTON 718 Heights Blvd.
SAN FRANCISCO 400 Fourth St. | LOS ANGELES 419 E. Third St.

OIL INDUSTRY DISTRIBUTORS

The Continental Supply Co.—Stores in All Fields.
Norvell-Wilder Hardware Co., Houston, Beaumont and Shreveport.
F. W. Heitman Co., Houston.
Alamo Iron Works, San Antonio
Pelican Well Tool and Supply Co., Shreveport.
Haywood Williamson Co., Shreveport.
Republic Supply Co., Los Angeles.
Kirk W. Eickelberger, Rialto Building, San Francisco.
Perkins, Macintosh Petroleum Tool and Boring Co., Ltd., 25 Bishopsgate E. C. 2, London, England

If Your Supply Company Can't Supply You, Write Us Direct

GARDNER



One by one leading manufacturers are using drop forged parts for the load bearing and strain resisting parts of their products. The tough give and take strength of forged steel offers no element of chance break downs, but affords reserve stamina for emergency loads and hard pulls.

Buy on the basis of performance and endurance and you'll buy at a profit. Champion Engineers help manufacturers of oil field equipment build more dependable products.

THE CHAMPION MACHINE & FORGING CO.
3695 East 78th Street Cleveland, Ohio
New York Office—30 Church St.
Philadelphia Office—Bourse Bldg.
Detroit Office—705 Ford Bldg.

CHAMPION DROP FORGINGS

completed No. 9 Clay, CEL NE SW NE Section 28-5s-1w. The well is making 80 bbls. from sand 1,040-60 feet. Total depth was 1,160 feet. Its No. 7 Criner, C E half NE NW, Section 20-5s-1w, is making 216 bbls. from sand 1,797-1,819 feet. Total depth was 1,822 feet where water was found Its No. 11 Clay, C W half NE, Section 28-5s-1w, is spudded; No. 4 Fish, NW cor. NE SE Section 28-5s-1w, is dry and abandoned at 1,540 feet, and No. 6 Fish, CEL NW SE Section 28-5s-1w, is a machine.

The Cotton Belt Oil Co. is spudding No. 6 Sparks, SW cor. NE SW Section 30-2s-2w. The Magnolia Petroleum Co.'s No. 14 Bennett, CNL NW NW Section 31-2s-2w, is estimated at 100 bbls. from sand topped 3,114 feet. It is being drilled ahead. Its No. 9 Lahman, SW cor. SE Section 23-2s-3w, is drilling at 590 feet; No. 5 Williams, SW cor. NE Section 23-2s-3w, had oil and gas 1,700-25 feet, broken sand 1,774-1,800 feet, gas 1,810-24 feet, oil and gas 1,830-32 feet, 21,000,000 feet of gas and 15 bbls. oil, completed. The Empire Gas & Fuel Co.'s No. 13 Williams SW cor. SE NE Section 34-2s-3w, is drilling at 300 feet.

The Southland Oil Co.'s No. 4 Poland, NE cor. NW NW Section 5-3s-2w, is completed for 40 bbls. from sand 2,485-2,530 feet. The Schermerhorn Oil Co.'s No. 4 Dickerson, CWL NW SE Section 5-3s-2w, is completed for 20 bbls. from a series of broken sands 2,530-3,148 feet. Merrick and others' No. 2 Holly, SW cor. SE NE Section, 8-3s-2w, is drilling at 1,350 feet. The Schermerhorn Oil Co. has completed No. 4 McGill, SW cor. SE SE Section 8-3s-2w, for 40 bbls. from a series of broken sands 2,566-3,310 feet. Merrick and others' No. 3 Lowery, is completed for 90 bbls. from a group of broken sands 2,182-2,391 feet.

The Amerada Petroleum Corp. is running the 8-inch casing at 825 feet in No. 5, Fish, CNL NW SE Section 28-5s-1w. Max Westheimer is drilling at 357 feet in No. 3 Fee, C north half NE NW Section 28-5s-1w. Winkler and others are drilling at 200 feet in No. 1-A Simpson, SW cor. SE SW Section 18-2s-7w.

N. LOUISIANA-ARKANSAS

(Continued from Page 40)

tion 31-15-15; Sid Umsted, drilling at 1,775 feet in No. 1 fee, Section 4-16-15; Unity Petroleum Co., drilling at 1,200 feet in No. 4 Berry, Section 33-15-15; O. F. Whittaker, set 6-inch at 2,355 feet in No. 1 Berg, Section 27-15-17; Wingfield and others have derrick up for No. 1 fee, Section 5-16-15, and two wells drilling on the Umsted lease in Section 4-16-15; Woodley Petroleum Co. is drilling at 500 feet in No. 5 Umsted, and has derrick up for No. 6, Section 4-16-15, and Zoller & Brown have derrick up for No. 1 Myatt in Section 22-15-17.

Stephens Field

The Buffalo Oil Co. is drilling at 1,600 feet in No. 1 Wesson, Section 26-15-19; Magnolia Petroleum Co. set 6-inch at 2,095 feet in No. 7 Hammond, Section 25-15-19, and C. W. Robinson is rigging up to drill No. 1 Polk, Section 16-15-19.

Cotton Valley

Practically no new development is being started in the Cotton Valley district and at the close of the week there were only 19 drilling wells, 15 derricks and four new locations.

Crusader Oil Producing Co. has two wells ready to pump on the Hope estate lease in sections 24 and 25-21-10; Fortuna Oil Co. is bailing casing at 2,505 feet in No. 1 R. R. Cox, Section 15-21-10; Gulf Refining Co. is down 100 feet in A. J. Hodges A-1, Section 25-21-10, and Humble Oil Refining Co. is drilling at 2,360 feet in Bodcau B-18, and rigging up to drill B-19, Section 28-21-10, arranging to pump No. 5 Gray, drilling at 1,650 feet in No. 6 and set casing in No. 7, Section 26-21-10, and has derrick up for No. 1 Weaver Brothers in Section 25-21-10.

Louisiana Oil Refining Corp. is arranging to pump No. 2 Bodcau, Section 13-21-10, and No. 5 Gray, Section 28-21-10, set 10-inch casing at 258 feet in No. 6 Gray, Section 28-21-10, and derrick up for No. 1 Jackson in Section 27-21-10. Ohio Oil Co. has four wells nearing completion on the Bodcau lease, sections 15, 27 and 28-21-10, with No. 31 in Section 27-21-10, rigging up to drill. No. 2 Cox, Section 15-21-10, cleaning out with cable tools, with six wells on the Gray lease in Section 28-21-10, arranging to pump. No. 9 Gray, Section 26-21-10, drilling at 1,735 feet, and derricks up for No. 10 Gray in Section 26-21-10, and No. 11 in Section 27-21-10.

Woodley Petroleum Co. is arranging to pump No. 1 Gray, Section 26-21-10, and drilling at 2,110 feet in No. 2 Gray, same section.

Springhill District, Webster Parish

Belchic & Laskey are drilling at 1,700 feet in No. 1 Glass, Section 27-23-10, and Fortuna Oil Co. at 950 feet in No. 1 Branton, Section 16-22-9.

Bienville Parish

Roxana Petroleum Corp. is drilling at 3,656 feet in its deep test on the Bryan lease in Section 30-17-6, half way between Bienville and Gibsland.

Bossier Parish

The Best Oil Co. has taken over the Bogen and others holdings and set 6-inch casing at 1,155 feet in No. 2 Atkinson, Section 3-18-12, 8 miles northeast of Shreveport.

Corbet and others have derrick up for No. 1 Murff in Section 18-17-11, 10 miles east and a little south of Shreveport.

Bellevue Field, Bossier Parish

Olmsted and others have derrick up for No .2 G. W. Smith, Section 22-19-11 and Osborne and others are drilling at 700 feet in No. 2 McDade, Section 28-19-11.

Caddo Parish

Arkansas Caddo Oil Co. has resumed drilling operations and is drilling at 2,500 feet in No. 1 Nickerson, Section 30-19-15, 6 miles south of the Mooringsport district and adjoining the Texas State line.

Several new wells have been started in the shallow sand district at Hosston, a territory which has been almost deserted for several years past. Dixie Oil Co. is drilling at 1,835 feet in No. 1 Jolley, Section 27-22-15; S. L. Ricketts made a location for No. 1 Levee Board in Section 32-22-15, and Lewis Oil Corp. is ready to pump No. 5 Caddo Mineral Land, Section 24-22-15, at 1,100 feet.

In the Pine Island district, Dixie Oil Co. had a blowout at 3,595 feet in its deep test on the Noel lease in Section 24-21-15, estimated at 4,000,000 feet and it has not been determined what to do with it; No. 65 Robertshaw, Section 13-21-15, is drilling at 2,310 feet, and derrick is up for No. 5 State, Section 24-21-15.

Fortuna Oil Co. is bailing at 3,550 feet in No. 10 Robertshaw, Section 23-21-15; Ohio Oil Co. tested dry at 1,602 feet in No. 16 E. K. Smith, Section 7-21-14, and drilling deeper at 2,252 feet, and is rigging up to drill No. 17 E. K. Smith, in Section 12-21-15.

Odell & Lawton are rigging up to drill No. 3 Weiss in Section 15-21-15; McGoldrick and others are drilling at 1,270 feet in No. 6 Murray, Section 14-21-15.

East of Oil City, the Fortuna Oil Co. is arranging to pump No. 14 Doan-Thigpen, Section 5-20-15, and drilling at 2,660 feet in No. 2 Levee Board, Section 8-20-15. West of Oil City, the Gulf Refining Co. is arranging to pump No. 222 Ferry Lake, Section 16-20-16. The Texas Co. is setting liner to bail at 2,265 feet in No. 10 Russell, Section 3-20-16, and the Standard Oil Co. is rigging up to drill No. 171 Stiles, Section 27-21-16.

Fortuna Oil Co. is drilling in shale at 2,325 feet in No. 1 Mitchell, Section 17-18-16, 4 miles west of Cross Lake.

Haynes Brothers are drilling at 2,440 feet in No. 1 Louisiana Live Stock & Planting Co., Section 8-19-16, 6 miles southwest of Mooringsport.

The Texas Co. is drilling at 1,240 feet in No. 1 Hutchinson, Section 15-15-12, in the south end of the Elm Grove district.

Waterman Drilling & Development Co. set 8-inch casing at 900 feet in No. 2 Hunting Club, Section 8-17-16, in the Waskom district, in the south end of the parish.

Woodley & Collins are drilling at 1,925 feet in No. 1 McVea, Section 27-19-14,

The man who knows and the man who doesn't

IF YOU are an authority on motor trucks and have kept right up to the minute on the improvements in their construction, then the International Truck will appeal to you for a dozen very good reasons.

The removable cylinders, the life-guaranteed ball-bearing crankshaft, the steer-easy steering-gear, the auxiliary rear springs—these and many other International mechanical features will make it easy for you to understand why these trucks have earned their good reputation wherever trucks are known.

And if you know little or nothing about the mechanics of a motor truck it can be just as easy for you to understand the soundness of International construction when you realize that for twenty years International Trucks have been built out of an experience in manufacture and service that dates back almost a century. And you can make your truck purchase with just as much confidence as an expert.

International Heavy-Duty Trucks are built in chassis ranging from 3000 to 10,000 pounds maximum capacities. The Speed Truck is for loads up to 2000 pounds. Motor Coaches are supplied for every requirement. Distributed through 105 Company-owned branches.

INTERNATIONAL HARVESTER COMPANY
606 So. Michigan Ave. OF AMERICA (INCORPORATED) Chicago, Ill.

INTERNATIONAL HARVESTER COMPANY TRUCKS

FOR LOW-COST HAULING

Tycos

Catering to temperature instrument users, indicating, recording, controlling, who place service rendered above price.

Catalogues ready for mailing inquirers on all phases in the indicating, recording and control of heat.

Taylor Instrument Companies
ROCHESTER, N. Y., U. S. A.
Canadian Plant TYCOS BUILDING, TORONTO
There is a Tycos or Taylor Temperature Instrument for every purpose

8518

east of Cross Lake and 9 miles north of Shreveport.

Claiborne Parish

The Claiborne Lincoln Syndicate has had several promising showings of oil in the Fields well, Section 22-19-5, and after testing at 2,260 feet is pulling liner to drill deeper and make another test. The well is located about half way between Homer and Ruston and 6 miles north of Arcadia.

Clark & Melat are drilling at 2,195 feet in No. 1 Heard, Section 5-21-6, 5 miles northeast of Homer.

The Triangle Drilling Co. is drilling at 2,215 feet in No. 1 J. H. Cox, Section 7-19-5, 12 miles southeast of Homer.

Woodley & Collins are drilling at 2,250 feet in No. 1 Oakes, Section 8-20-5, 9 miles southeast of Homer.

De Soto Parish

Fortuna Oil Co. is drilling at 1,100 feet in No. 1 Alexandria, Section 32-12-15, 5 miles east of Logansport.

The Texas Co. is drilling at 1,515 feet in No. 30 Christine, Section 6-12-11, in the Naborton Field.

L. V. Ulrey is arranging to pump No. 1 Patterson-Robinson, Section 22-11-12, in the old Pelican district in the south end of the parish.

Grant Parish

The Finn Construction Co. is drilling at 1,250 feet in No. 3 Ball, Section 1-7-1w, and Grant Parish Petroleum Co. is closed down at 950 feet in No. 1 Selmer Lumber Co., same section. The tests are between Colfax and Catahoula Lake.

Jackson Parish

Big Lake Oil Co. is drilling at 750 feet in No. 1 J. H. Rhymes, Section 13-14-4w, a wildcat test 18 miles north of Winfield.

La Salle Parish

Drilling activity in the Urania district in La Salle Parish is steadily increasing in spite of the fact that the discovery well is still closed down on account of litigation and no definite test has been made.

Helm & Burch are rigging up to drill No. 1 Urania in Section 28-11-2e; the Imperial Oil & Gas Co. has derrick up for No. 1 Urania in Section 10-10-2e, and Rowe and others are rigging up to drill No. 1 Urania in Section 7-10-2e.

Gould & Monroe Drilling Co. is down 180 feet in No. 1 Harper, Section 23-10-1e; Gulf Refining Co. has a fishing job at 2,657 feet in Urania A-1, Section 22-11-2e, and G. W. Zeigen and others are drilling at 1,465 feet in No. 1 Urania, Section 18-10-2e and are rigging up to drill No. 1 Urania in Section 19-10-2e.

Lincoln Parish

Gulf Refining Co. is drilling in rock at 1,225 feet in No. 1 Dudley, Section 4-18-4w, 2 miles north and a little east of Ruston, and the Ruston Drilling Co. is rigging up to drill No. 1 Richardson, Section 7-18-2w, 9 miles northwest of Ruston.

Morehouse Parish

Natural Gas Production Co. is drilling at 1,850 feet in No. 16 Crossett, Section 15-22-5.

Natchitoches Parish

R. O. Roy is drilling at 2,115 feet in No. 1 C. M. Durr, Section 27-10-10, 10 miles south of the Bull Bayou Field.

Ouachita Parish

Palmer Corp. set 6-inch casing at 2,118 feet in No. 2 Potts, Section 12-19-4e, and J. P. White and others resumed drilling on the Jones lease in Section 6-16-5e and are down 2,350 feet.

Sabine Parish

L. M. Emlet is drilling at 1,710 feet in No. 4 Bowman Hicks Lumber Co., Section 8-7-12, and set liner to bail at 2,633 feet in No. 5, Section 9-7-12.

Flo-La Oil Co. is arranging to test 27 feet of broken sand at 2,535 feet in No. 1 E. A. Walker, Section 8-5-12.

Union Parish

Jones & Walker Oil Co. has a fishing job at 2,558 feet in No. 1 Feazel, Section 6-19-2e, half way between Monroe and Farmerville.

Roxana Petroleum Corp. has a fishing job at 1,200 feet in No. 1 Henderson, Section 13-22-3w, 15 miles northwest of Farmerville.

In the east end of the parish, in the western extension of the Monroe gas field, Ruston Drilling Co. set 8-inch at 970 feet in No. 1 James Miller, Section 7-20-4e; The Texas Co. is rigging up to drill No. 3 Grayling in Section 21-20-4e, and Thrift Oil & Gas Co. set 6-inch casing at 2,125 feet in No. 1 Smith-Russell, Section 12-20-4e.

Arkansas Wildcats

Columbia County

Arkansas Fuel Oil Co. got fresh water at 695 feet in No. 2 Hardy, Section 1-19-22, and will have to case it off before it can drill deeper. The test is 10 miles south of Magnolia and 8 miles north of the Haynesville Field.

Transcontinental Oil Co. tested 5 feet of sandy shale at 2,182 feet in No. 1 McClurkin, Section 6-16-18, on the south edge of the Stephens Field.

Virgil Heath, trustee, is drilling at 2,680 feet in No. 1 Williams, Section 1-19-21, 10 miles south of Magnolia.

Wingfield & Mitchell are drilling at 2,050 feet in No. 1 Bodcau, Section 4-20-21, 16 miles south of Magnolia.

Drew County

McClintock & Goodke are rigging up to drill No. 1 Ogle in Section 35-13-5, 12 miles southeast of Monticello.

Hempstead County

J. G. Wooten is drilling at 1,625 feet No. 1 Bodcau in Section 13-18-24, 10 miles west of Prescott.

Lafayette County

Estes and others have derrick up for No. 1 Bodcau in Section 13-18-24, 10 miles south of Lewisville.

Humble Oil & Refining Co. is shut down for water at 1,450 feet in No. 1 Bodcau-Riggins, Section 21-15-22, 10 miles northeast of Lewisville.

Little River

Gaines and others' No. 1 Goodrun Lumber Co., in Section 15-13-29, tested dry and arranging to abandon at 2,900 feet, 4 miles southeast of Hudson, 9 miles northeast of Pine Prairie, and 4½ miles southwest of Red Bluff.

Miller County

Dr. F. F. Nigh and others abandoned No. 1 Thomas, in Section 12-20-28, just north of the Caddo Parish line.

Nevada County

Greason and others are arranging to pump No. 2 McKinney, Section 10-14-21, at 1,200 feet, Smitherman & McDonald No. 3 Womack, Section 10-14-21, at 1,217 feet, and Zing and others' No. 2 Womack at 1,240 feet.

McIntuff and others are drilling in shale at 1,008 feet in No. 1 Eades, Section 11-12-13, 5 miles southwest of Prescott.

Union County

Magnolia Petroleum Co. is drilling at 2,225 feet in No. 1 Chandler, Section 4-19-14, 5 miles east of the south end of the El Dorado production. Ten miles farther east, Matthews and others have a flow of salt water with no show of oil at 2,662 feet in No. 1 Teele, Section 11-19-12.

GULF COAST

(Continued from Page 42)

doned at 900 feet. The Lake View Oil Co.'s No. 42 Hardin is bailing at 1,475 feet.

The Yount-Lee Co. is drilling No. 1 Ambrose at 3,565 feet. The Sun Oil Co.'s No. 62 Bass-Eastham is drilling below 1,345 feet. The McNamara Oil Co.'s No. 12 Bashara is at 2,155 feet. The Humble Oil & Refining Co. is starting No. 24 Herbert. The Hankamer Oil Co. has a location for No. 2 Brown.

In the Batson Pool, Kirby Petroleum Co.-Anderson and Munson's No. 3 Hodges is flowing 75 bbls. of fluid by heads, at 1,060 feet, 35 per cent water. The Acorn Oil Co.'s No. 3 Brite is a 5-bbl. well at 605 feet, and the Duetser Oil Co.'s No. 11 trustee is also a 5-bbl. pumper at 1,045 feet.

The Ada Belle Oil Co.'s No. 94 Davis is deepening at 855 feet. The Paraffine Oil Co.'s No. 40 fee is drilling at 670 feet. The East Batson Oil Co.'s No. 17 McGoldrick is at 565 feet.

Other Pools

At Spindletop, the Stella Oil Co.'s No. 18 Hogg-Swayne is drilling at 780 feet.

At Blue Ridge, the Gulf Production Co.'s No. 2 Duscher is at 3,710 feet. The same company has a derrick up for No. 11-C Blakely. The Texas Co. is

They're riding in autos now

THERE'S NO BETTER SUCKER ROD MADE THAN THE "JONES" SPECIFY THEM IF YOU WANT THE BEST

Times change—but quality cannot. When the bicycle was the last word in transportation Jones was making the best Sucker Rods. In the lapse of time since those "good old days" the Jones Sucker Rod has been improved but the quality is of the same high standard.

JONES "giant" forged-end sucker rods

are recognized as the finest strongest Rods—comparative tests prove it.

Write today for our latest catalogue—"The Inside Story"—it tells facts every field man should know.

S. M. Jones Company
Toledo, Ohio

Mid-Continent Office—601 Wright Bldg., Tulsa, Okla.

When Feeding Gas Fuel to Field Boilers---

Do You Use the "Chance" Method or the Safe Method?

Do not take chances with hand control, or other uncertain methods of feeding gas fuel to your field boilers.

FISHER
BOILER GAS FUEL GOVERNOR

Install a "FISHER" Boiler Gas Fuel Governor and be safe, as well as free from worry.

It is a Lever and Weight Control, with a diaphragm actuated by boiler pressure, which actual tests have proven to be the most positive and sensitive control.

The valve body is provided with a by-pass to furnish gas to the pilot light.

The usual high quality of workmanship and material is embodied in this regulator that is found in the regular line of "FISHER" Specialties.

You want a device that will enable you to get the greatest economy in operation. We have it.

Ask about our other specialties used in Natural Gasoline Plants

Write us

THE FISHER GOVERNOR CO.

Dependable Specialties

367 Fisher Ave. Marshalltown, Iowa

starting No. 13 Robinson on the northwest side of the dome.

At Pierce Junction, the Texas Exploration Co.'s No. 7 Dolley is at 3,455 feet, working over. H. R. Cullen and others' No. 6 Howe is drilling at 3,765 feet.

In the West Columbia Pool, the Humble Oil & Refining Co.'s No. 1 Wilson is pumping 100 bbls. at 3,300 feet. The same company's No. 12 T. W. will make a pumper at the shallow depth of 370 feet.

The Humble Co. is rigging No. 2 Wilson and drilling No. 13 T. W. The Hyde Production Co.'s No. 1 Lee is around 955 feet.

At Big Creek, The Texas Co.'s No. 1 Lingua is at 3,454 feet. The Gulf Production Co.'s No. 18 Davis is drilling around 3,345 feet. No. 19 Davis is washing at 3,250 feet. No. 20 Davis is drilling at 3,464 feet.

At Markham, the Rycade Petroleum Corp.'s No. 2 Gray is deepening at 3,455 feet. Powers and McCarthy's No. 1 Cherry is around 2,000 feet.

In the Humble Pool, Cerezeaux and Martin's No. 2 Burt bailed dry at 2,720 feet. They are drilling No. 3 Burt and the Southern Petroleum Co. is drilling No. 43 Landslide, setting the 10-inch casing. The Humble Oil & Refining Co. is drilling a test on the Blanco league, south of the pool.

South Louisiana Pools

The Roxana Petroleum Corp.'s No. 1 Hunter, at Edgerly, is drilling around 4,950 feet; G. W. Gray's No. 11 Lilliard is sidetracking at 1,360 feet.

At Jennings, the Foxman Oil Co.'s No. 1 Truschell is drilling around 2,810 feet. The Coastal Oil & Fuel Co.'s No. 89 fee is drilling around 1,675 feet. The Gulf's No. 36 Jennings-Clement is drilling around 2,600 feet.

Abandoned Wildcats

In Wharton County, the Gulf Co. abandoned No. 1 Heckstedt on one side of the Boling Dome, at 2,200 feet, in gypsum.

In Jefferson County, the Houston Oil Co. quit No. 1 Sun-Davis at Big Hill Dome, as a junked hole at 1,575 feet.

In Kleberg County, the Humble Oil & Refining Co. abandoned No. 1 King ranch at 4,150 feet.

Two deep wildcat tests are still drilling in the Coastal country. The Rycade Petroleum Corp.'s No. 2 Nash at Wisdome Dome in Fort Bend County is below 5,030 feet, and the Marland Oil & Refining Co.'s No. 1 Dwyer at Shepherd Dome in Matagorda County, is about the same depth.

Southwest Fields

April will be a record breaker for tank car shipments from the Webb County pools. A total of 1,300 cars have been shipped to date, against 1,192 tank cars during March, which was the record to date.

The contract of the Magnolia Petroleum Co. with the United North and South Co. for Luling crude has expired and the runs of the Magnolia pipe line from the field have dropped to around 3,500 bbls. per day. Following the opening of the field the Magnolia Co. made several large purchases of crude from the United North and South in 500,000 and 1,000,000-bbl. lots and laid an 8-inch welded pipe line from the field to its refinery at Beaumont, through which it delivered its purchases. The Atlantic Refining Co. and the Humble Oil & Refining Co. later entered as buyers of crude, the Atlantic Co. shipping in tank cars to the docks of the United Central Oil Corp., formerly the White Oil Co., at Pasadena on the Houston ship channel. It was sent to Marcus Hook in tankers. Consignments are also being made to the Beacon Oil Co. at Boston. The Humble Co. built a topping plant at Hearne, taking off the gasoline and turning the residue as fuel oil to the Southern Pacific Railroad on a contract. Tanker shipments from Pasadena during March were 488,058 bbls.

The Magnolia Co. has a lot of empty storage at Luling which will be used for the light gravity Lockhart product, when the 6-inch line extension from Luling to the new Lockhart Field is completed about May 1. With plenty of storage available at Luling it is expected the Oil and Gas Division will permit drilling to resume in the Lockhart area.

The Owens Refinery & Pipe Line Co. has acquired the small line of the Southern Pipe Line Co. in the Rockdale-Minerva shallow sand section of Milam County. The Southern Co.'s line was laid for the purpose of gathering oil and shipping it to San Antonio, but experience proved the production there did not justify both lines.

Coastal Wildcats

The status of the various tests drilling around the semi-defined saline domes and the new domes located by means of the seismograph or torsional balance, is practically unchanged during the week. The Gulf Production Co.'s No. 2 Smith, on the south side of High Island, Galveston County, is reported to have a sand showing oil and gas around 3,200 feet. It is fishing for part of the drill stem. Some additional leasing there has resulted, but most of the major companies have holding taken up years ago and on which they have been paying rentals. The Gulf Co.'s production is about 1,000 feet off the dome toward the Gulf of Mexico. The Sun Oil Co. has some production there and Beaumont operators have some small wells on the dome, producing from 300 to 400 feet. The Sun Oil Co. has posted $1.45 for High Island. The area is located on the east end of the Galveston peninsula, south of Big Hill in Jefferson County, another dome, and about 25 miles southwest of Beaumont. It has been the scene of exploration work for over 18 years. The Texas Co. is starting Nos. 1 and 2 Coon in the western part of Galveston County.

S. J. Hindman's No. 1 Collier on the east side of the Barber Hill Dome in Chambers County, is drilling around 3,325 feet. C. H. Rucker's No. 1 Fisher, on the shore of Trinity Bay in the same county, is drilling below 2,200 feet. The Humble Oil & Refining Co. is rigging No. 3-A Jackson.

In Orange County, the Republic Production Co.'s No. 1 Stark, north of Orange, is drilling below 2,350 feet.

In Jackson County, the Houston Oil Co.'s No. 1 Rose, 7 miles west of Edna, is starting, and No. 2 Rose, 1 mile north is rigging. These are tests for gas. The Jackson County Syndicate's No. 3 Drushell, 7 miles northwest of Edna, is below 2,200 feet. The Vanderbilt Petroleum Co.'s No. 1 Seliner, 4 miles north of Vanderbilt, is around 2,725 feet.

In Goliad County, the Houston Oil Co. is drilling No. 1 Wood. In Bastrop County, Foster, Clark and others' No. 1 Hicks is drilling at 675 feet.

In addition to the unusually deep wildcats drilling in Fort Bend and Matagorda Counties, already mentioned, the Gulf Production Co. has another in No. 3 Felder, off the Boling Dome, Wharton County, which is below 4,000 feet. The Bryan Production Co.'s No. 1 Chester, in the southern part of Brazoria County, is drilling around 3,550 feet.

Inland from the Gulf, McCausland and others' No. 1 Dodd, near Iola, Grimes County, is below 2,915 feet. Near Carlos in that county, J. E. Cuthrell's No. 3 Ruth is shut down at 3,500 feet, and No. 4 Ruth is drilling at 2,343 feet. No. 5 Ruth is a shallow test and is drilling at 400 feet.

The Humble Oil & Refining Co. is drilling No. 1-A Bond in Jasper County, G. N. Gordon No. 1 Dodd in Waller County, C. O. Fleming No. 1 in San Jacinto County, and the Ridge Oil & Gas Co.'s (C. N. Haskell and associates) No. 2 Eastham in Walker County.

The Magnolia Petroleum Co. has started No. 1 Kimes, a deep test, in Milam County. Brady Oil Co. is drilling No. 3 Niehaus and the Texas Petroleum Co. No. 7 Phillips in the shallow sand section there.

West Texas

Out in Brewster County, the Green Valley Oil Co.'s No. 3 Wilson is drilling around 1,900 feet. In Pecos County, the Gulf Production Co.'s No. 1 White-Baker ranch is around 2,350 feet. The Plymouth Oil Co.'s No. 1 Perry ranch is at 2,750 feet. In Crockett County,

The NUTTALL TYPE "HD" OIL WELL PUMP GEAR UNIT

The Nuttall Oil Well Pump Gear Unit with top half of case and driving half of coupling removed

The NUTTALL Herringbone Pump Gear Unit was designed in consultation and co-operation with practical operating men, then given extensive trial in actual operation. All the kinks have been ironed out and it is a perfected unit, with nothing untried or unproven—nothing experimental about it.

Complete detailed mechanical description, price lists, etc., will be forwarded upon request. Our consulting staff is at your service to study your actual requirements and show you how to improve operation and save money by the use of this reduction unit.

Call on us freely for any information or service you may want.

Write for Bulletin 44

Philadelphia Office
Westinghouse Bldg.
30th & Walnut Sts.

R.D. NUTTALL COMPANY
PITTSBURGH PENNSYLVANIA

Chicago Office
2133 Conway Bldg.

Canadian Agents
Lyman Tube & Supply Co., Ltd.
Montreal and Toronto

Nuttall

Hercules means more—and better—power for the machinery in the several divisions of these industries:

Automotive
Brick and Clay
Busses
Compressors
Concrete Machinery
Contracting, General
Conveying and Loading
Cranes and Hoists
Electrical
Emergency ("Stand-By") Power Plants
Excavating
Farm Tractors
Farm Machinery
Harvesters
Locomotives, Industrial
Logging
Milling
Mining
Oil and Gas
Pumping
Road Building
Stone and Gravel
Track-Laying Machinery
Transportation

HERCULES ON THE JOB

When the Hercules Engine—or the Hercules Industrial Power Unit—gets on your job it will stay on your job!
The simplicity of design of the Hercules shows up best and in a practical manner in its daily performance on the job.
Wherever sure power is needed Hercules is needed.
Whatever your power job Hercules will handle it more economically and more dependably.
The Hercules is easy—and inexpensive—to install. It operates on gasoline, kerosene or natural gas.
At all times, everywhere, Hercules stays on the job!

HERCULES MOTORS CORPORATION
Canton, Ohio, U. S. A.

50

HERCULES
[GREATEST SIMPLICITY OF DESIGN]
ENGINES
[MADE IN CANTON OHIO U.S.A.]

S E R V I C E

SPENGLER
COMPLETE CORING SERVICE AVAILABLE EVERYWHERE

A GEOLGIST can estimate the approximate location of formations in your well, but if you want definite information you'll need SPENGLER CORES.

Phone, Write or Wire

SPENGLER
CORE DRILLING COMPANY
A. G. Bartlett Bldg. LOS ANGELES Phone Met. 7714
128 & Main Sts. Rosecrans Tel. Compton 1153 & 1301
Taft, California Phone 81

R E S U L T S

the World Oil Co.'s No. 1 Powell is at 2,500 feet. J. S. Cosden's No. 1 in Section 34, Block 12, University land, is setting 6⅝-inch casing at 2,725 feet. The Red Ball Oil Co. is rigging No. 1, Section 5, Block 13, University land, and Shaffer and others' No. 1, Section 13, Block 47, is a location.

In St. Martin Parish in south Louisiana, the Ohio Oil Co. is drilling No. 1 Champagne.

ROCKY MOUNTAIN AREA

(Continued from Page 52)

land office at Cheyenne, the order appears to stand. A contract has been let for the moving of all the Government's records and the total removal of all property is expected to be completed by the first of the month. Oil men were strongly against the removal of this office from Douglas, as when the land office is located in Cheyenne, it entails much expense and a longer time than heretofore.

The first of a fleet of airplanes built for passenger and express service was received in Casper the past week by the Wyoming Airways Corp. The company is made up largely of oil men and A. G. Hardendorf is one of the managing officials of the new air firm. The new air ship is much larger than the ordinary airplane and has seats for six passengers besides compartments for freight and baggage. The company hopes to receive a contract for carrying mails between Casper and Denver.

The Chicago & Northwestern Railroad has changed 20 oil burning locomotives back to coal burners the past week in order to increase the output of coal at the company's mines at Hudson on the Lander Division. The company states there was no shortage of oil, but the miners were only working a part of the time and due to the spring and summer season coming, no large demand for coal could be expected.

Salt Creek	59,160
Teapot	1,780
Big Muddy	3,320
Grass Creek	4,220
Elk Basin	940
Greybull	60
Rock River	3,380
Notches	10
Lance Creek	1,770
Poison Spider	80
Osage	390
Hamilton Dome	680
Lander	280
Byron	60
Lost Soldier	3,700
Ferris	80
Cat Creek	3,050
Sunburst	3,225
Craig	810
Fort Collins	860
Boulder	25
Florence	245
Rangeley	100
Tow Creek	70
Hogback	530
Artesia	1,045
Rattlesnake	290
Miscellaneous	200
Total	90,360

March Field Runs

Salt Creek	1,759,450
Teapot	62,690
Big Muddy	101,840
Grass Creek	133,600
Elk Basin	30,290
Greybull	500
Rock River	100,360
Lance Creek	20,370
Poison Spider	3,225
Osage	10,680
Hamilton Dome	19,400
Lander	7,370
Byron	2,820
Pilot Butte	930
Lost Soldier	147,490
Ferris	1,970
Cat Creek	99,840
Sunburst	95,510
Craig	24,425
Fort Collins	36,150
Boulder	775
Rangeley	3,100
Florence	7,545
Tow Creek	5,170
Artesia	22,135
Hogback	15,590
Rattlesnake	14,800
Miscellaneous	6,200

CALIFORNIA FIELDS

(Continued from Page 50)

to this work on the Del Amo lease, the company is going ahead in No. 74 Torrance at 2,900 feet and making hole in No. 84 Torrance at 3,520 feet.

The Petroleum Securities increased its daily production 136 bbls. by completing well No. 16 on Kleinmeyer lease B. It was put on the beam at 3,792 feet and is pumping 17.2 oil cutting 5 per cent. No. 10 on this lease is going ahead at 3,495 feet, while No. 18 is standing cemented at 3,787 feet.

Long Beach

There was one redrill returned to production at Long Beach during the past seven days. It was the Big Jumbo Oil Co.'s No. 1 redrilled and deepened to 4,420 feet and, although it looked very good for a little while, it sanded up a short time before the production test was started. No tank gauge was made as the oil was pumped. The company is now devoting its attention to cleaning out the hole and has expectations of finishing at least a 200-bbl. pumper. The Bolsa Chica Oil Co. has given up the idea of finishing No. 2 Mutual in the deep zone at 4,925 feet, after working on the hole for several months. Mechanical trouble developed at this depth and the well will be put on the beam in the upper sand around 3,100 feet. The Ramsey Oil Co. is moving in material for another well on the Morrison property and will probably start rig construction during the coming week. The Regina Petroleum is battling with water in No. 2 Judd, at 4,275 feet and has just recemented the 6¼-inch.

Huntington Beach

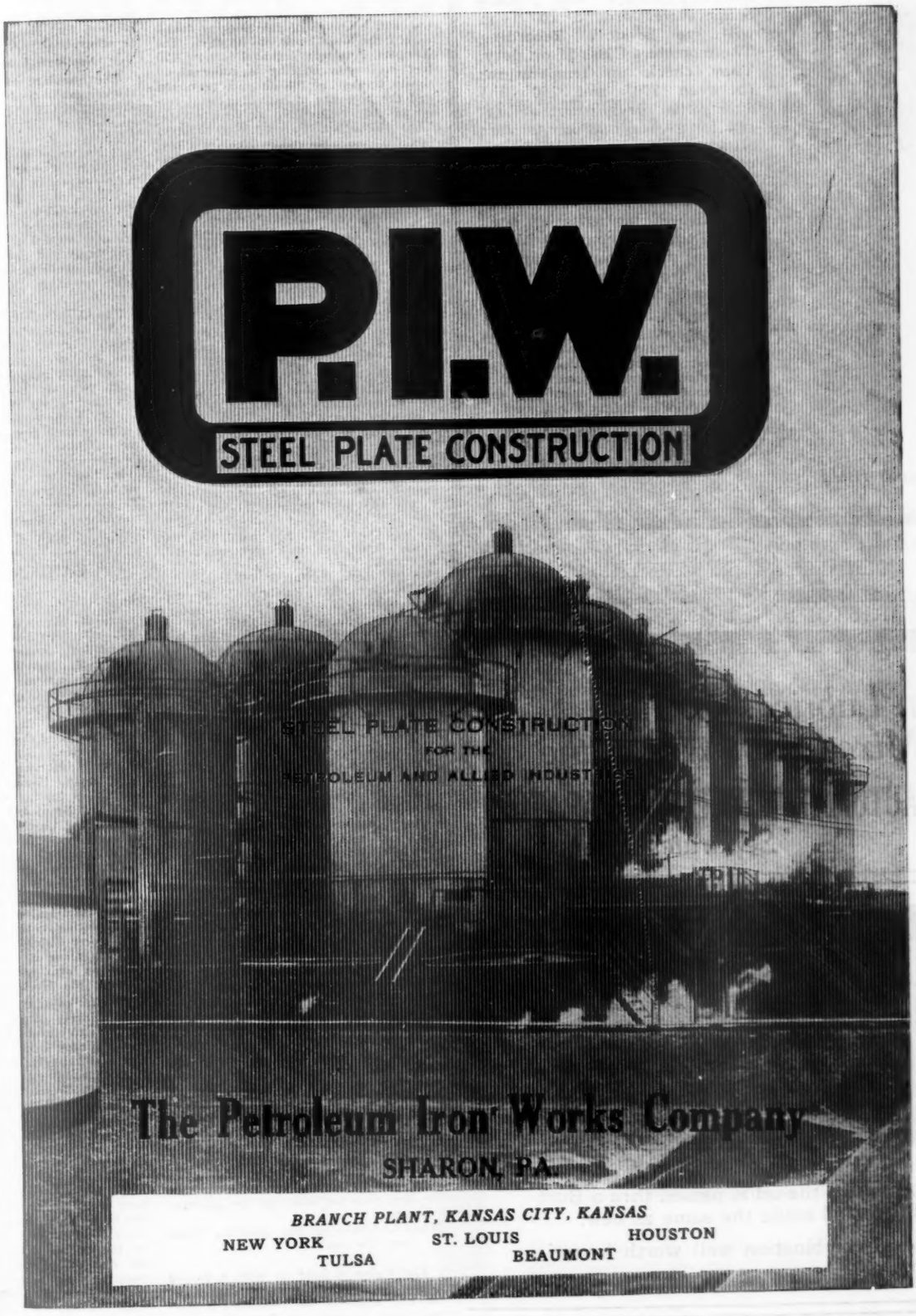
The Associated finished a fairly good redrill at Huntington Beach in No. 1 Miley-Keck. This well, which was only making a small amount of oil from 2,475 feet, was redrilled and deepened to 3,467 feet. Upon recompletion it started off doing 446 bbls. of clean 24.6 gravity oil daily. The success which operators have attained recently in the eastern and southeastern part of the field will probably lead to additional work in this area and, while no large number of new holes will be started, it is believed that several upper zone producers will be deepened. The Julian Petrolum is rigging up an offset to the Petroleum Midway's No. 1-A Thornton and, since a drilling contract has been awarded Brown & Fosnaugh, an early spud is anticipated and the hole carried to a successful completion with as little delay as possible.

No. 18 Bolsa Chica, of the Standard, although showing some oil and gas, has not yet exhibited a sand of sufficient saturation to warrant a test and the ultimate outcome of this outpost is still in doubt. The bit at present going ahead at 5,355 feet, the formation showing a little oil and gas. The company's No. 4 Farnsworth picked up a small showing at 3,231 feet but, as this hole does not look good for shallow production, it will be carried on down. The Union is spending considerable time on No. 3 Newland, a deep hole drilled to 5,131 feet, but has not yet succeeded in securing production. The General Petroleum is cleaning out both Nos. 1 and 2 on the Dabney lease and going ahead in a new driller, No. 4 Dabney, at 2,843 feet. The Petroleum Midway has just spudded in a new well, No. 6 Brown, and is building a rig for No. 7.

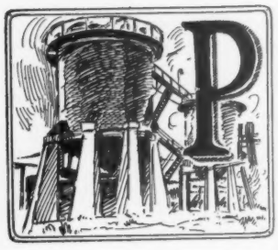
Miscellaneous Drilling

Practically all work is at a standstill in the Rideout Heights section of the Whittier Field, but in the older area a few operators are doing a limited amount of work. No. 21 Home of the Standard is held up with a fishing job at 5,045 feet and it would not be surprising if the company abandoned this deep hole and plugged back for a test in the shallow sands. The Central is making very slow footage with it well No. 74, and can only show 1,720 feet of hole for its efforts to date. The Ocean View Oil Co. is working on No. 2 at 3,700 feet, but seems to be up against a mean job because of water.

The Chicksan Oil Co. is making preparations to finish its second producer at Richfield and, judging by the kick which No. 2 Bradford has displayed, the company can expect at least a 1,000-bbl. well. This hole will be finished in the deep zone opened up by the Chicksan with No. 1 Bradford several months ago. No. 3 Bradford is just getting under way and will set a 14-inch stovepipe at 415 feet. The Tonner Oil Co. is going ahead slowly in No. 1 Swan at 1,545 feet, the company being delayed for a short time because of water trouble. No. 1 Tuffree, of the Union, was cored at 4,760 feet and the formation found to be a brown


P.I.W.
STEEL PLATE CONSTRUCTION
STEEL PLATE CONSTRUCTION
FOR THE
PETROLEUM AND ALLIED INDUSTRIES
The Petroleum Iron Works Company
SHARON, PA.
BRANCH PLANT, KANSAS CITY, KANSAS
NEW YORK
ST. LOUIS
HOUSTON
TULSA
BEAUMONT

You see them everywhere



ARTICULARLY for process temperatures around 200° you will see Bristol's Recording Thermometers Class II on duty. They check up temperatures (between 200° and 250° F.) during the drying out of barrels for greases and compounds; also during the treatment of various oil fractions to remove compounds that impart objectionable odors or tend to discolor product; also during agitation, etc., etc. These thermometers have a working range from 90° to 500° F., and are operated by the expansion of the vapor of a liquid.

ent will produce absorpt

First in the field and always standard, Bristol's Recording Instruments meet every need in temperature control. They comprise the most extensive line of Recording Instruments in the World, including Pressure, Liquid Level, Temperature, Electricity, Motion, Speed, Humidity, etc.

Ask for Catalogs.

Vapor filled

The Bristol Company Waterbury, Connecticut

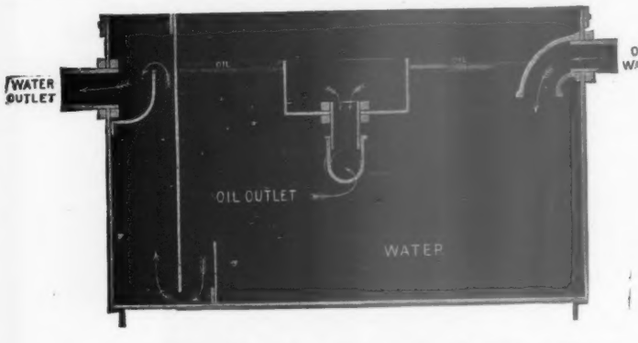
FOR 36 YEARS Ask Any Technical Engineer MAKERS OF

BRISTOL'S RECORDING INSTRUMENTS

When Lubricating Oils Are Mixed with Water, the

BURT AUTOMATIC WATER SEPARATOR

Separates Them



—after which the oil is passed thru a Burt Oil Filter and made the same as new.

An ideal combination well worth investigating.

THE BURT MANUFACTURING COMPANY

Pioneer Oil Filter Manufacturers

929 S. High St. Akron, Ohio

sandy shale. So far this outpost has been rather disappointing.

The Interstate Oil Co. at Newport reports the discovery of a much lighter oil in its No. 2 Mesa than that developed in the other shallow producers in this area. Indications were picked up at 640 feet but the hole was carried down to 665 feet, at which depth a production test will be made of the showing found within the next week or 10 days. The Newport Petroleum's tunnel is now 420 feet in length. Digging is going ahead slowly because of the distance traversed and the necessity of installing reinforcements and timbers to prevent caving. There has been very little production credited to this area during the past several weeks and no immediate improvement is expected.

Seal Beach

The Associated has just spudded in No. 1 Hellman at Seal Beach and is anticipating a good producer around 4,700 feet. The Shell has cleaned No. 2 Bryant down to 3,370 feet and will resume work as soon as preparations are completed to prevent a repetition of the gas blowout which occurred in this hole at 4,409 feet. No. 3 Bryant is drilling ahead at 4,320 feet, the formation being a sandy shale. The discovery well, No. 1 Bryant, is making 55 bbls. of oil and about 2,000 bbls. of water from 4,620 feet. Production from this hole is being used as fuel under the boilers in the field.

Because of the heavy increase in the quantity of gas which No. 101 Fox was making at Beverly Hills, Associated officials deemed it wise to make a production test of this outpost. Heavy mud prevented a blowout and permitted the crew to get an oil string into the hole with safety. This outpost looks unusually promising and the test scheduled during the latter part of the current week will be watched with interest.

Southern California Wildcats

The Manhattan Pacific Oil Co. will land a string of 6¼-inch in its Hermosa Beach wildcat, drilled to 4,165 feet. A string of 8¾-inch landed at 3,800 feet proved unsatisfactory and the company, believing that the showings found in this test will result in production, showed no hesitancy in sacrificing a string of pipe.

The Winwell Oil Co. did not succeed in effecting a water shutoff at Hawthorne and another cement job was made necessary at 5,570 feet.

The Calny Oil Co. reports 3,000 feet of hole at Irvine and an exceedingly hard formation, requiring the use of special rock bits.

No. 1 Stubbs, of the Shell, near La Mirada, is making hole in a sandy shale at 3,560 feet, while the Standard's No. 1 Hadley, at Rivera, several miles away, is standing cemented at 2,586 feet. The latter's No. 1 Irvine, at Paulerino, is drilling ahead in a hard black shale at 2,450 feet. Hoyt S. Gale is building a rig nearby for his No. 1 Irvine, but the spudding date has not been announced.

No. 1 Duncan, of the Bixby-Midfield, at Los Alamitos, shows 3,880 feet of hole.

The Unions No. 1 Newlin at Ocean Park has not yet picked up any favorable indications, notwithstanding the fact that 4,057 feet of hole has been made to date. This test is being watched very closely both by oil men and real estate operators interested in the area. Visitors became so numerous that the crew, not wishing to be interrupted every few minutes, dug a mock grave and placed the following epitaph on the headstone:

Here he lies, dad burn his soul,
He wanted to know what was in the hole,
He died with his boots on, the ignorant stew,
When he asked us this question, "How deep are you?"

The Union is held up with a fishing job at Saugus, in a gray sand at 2,144 feet and, although the Associated is making rapid headway at Newhall, a few miles away, no favorable indications have yet been picked up in this 4,478-foot hole.

The Calwin Oil Co. at Eagle Rock, reports a black shale at 5,260 feet but, from other reliable sources, the formation is reported as a disintegrated granite.

The Magnolia Petroleum Syndicate encountered a slight showing of oil and gas in its Maywood wildcat at 3,430 feet, the showing consisting of gas bubbles and oil colors in the ditch. The management is considering the advisability of landing a string of 8¼-inch for a test.

Bingham & Stanton are testing out their Puente wildcat in the San Jose Hills, drilled to 4,075 feet, but it is not believed that commercial production will be secured.

Northern California Wildcats

The Standard has not yet drilled out the cement in its San Emidio wildcat on Section 5-10-22, which has been standing cemented at 2,254 feet, but is going ahead at 5,400 feet on Section 28-11-22. It may be possible that the company is awaiting the outcome of the latter test before resuming work on the former.

The Kern 29 Oil Co. spudded in on Section 29-31-30, at Commanche Point, but orders were issued to suspend operations at 200 feet. The company will apparently not do any further work in the immediate future, the technical spud being probably just made to hold the lease.

The Chanslor-Canfield Midway Oil Co. at Delano, Section 20-25-27, is going ahead in a sandy brown shale at 3,765 feet. So far this hole has been devoid of any showings of importance.

The Standard is hauling in rig timbers for another test in the Lost Hills area to be drilled on Section 12-25-19. The company only recently abandoned a duster on Section 5-27-20, but the present location is considered a little more favorable. The same company's two prospects on the McKittrick Front, Section 25-28-21, are recent spuds and rapidly nearing the 1,500-foot level. The Standard recent-

(Continued on Page 119)

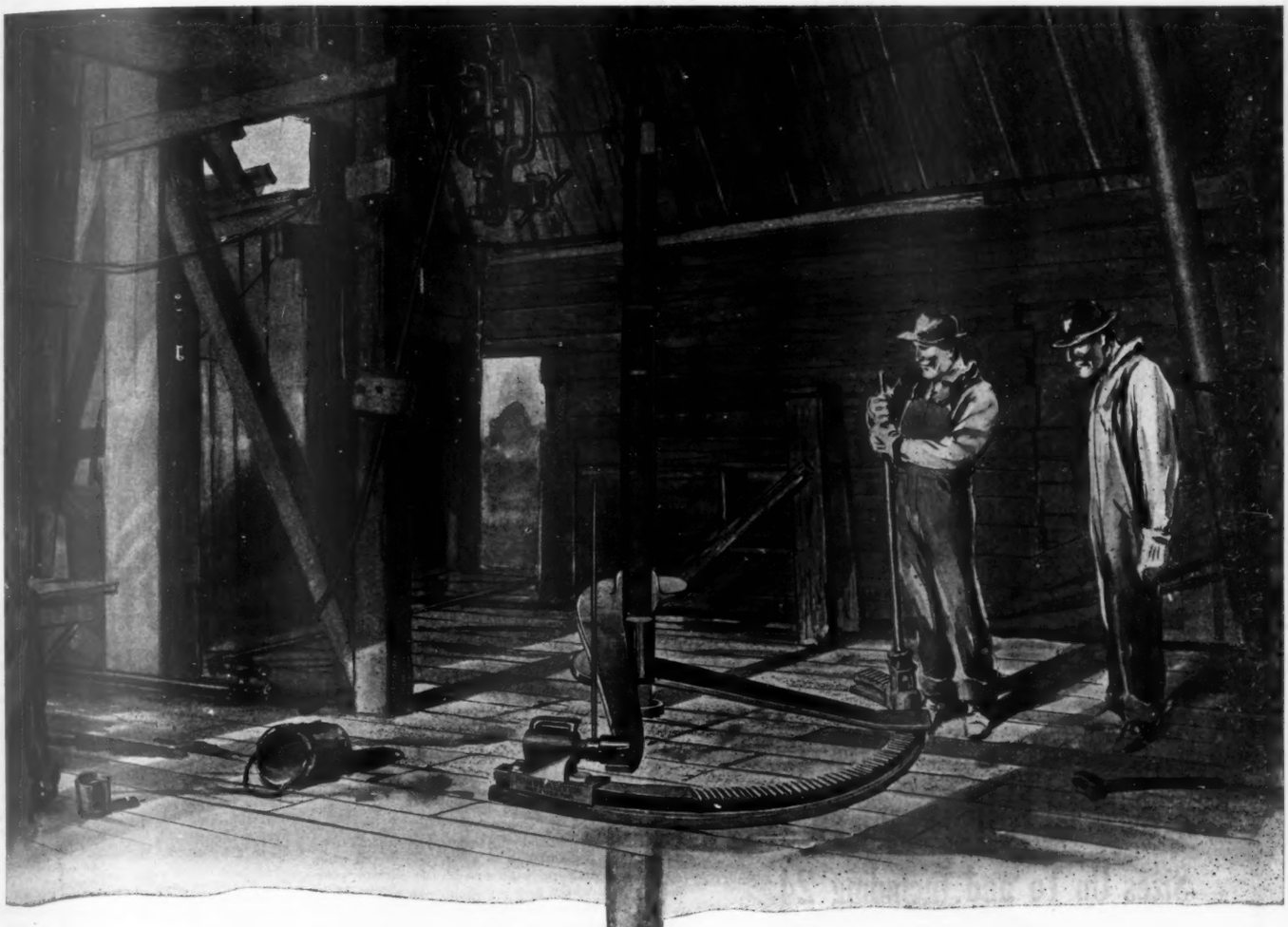
EASTERN FIELDS

(Continued from Page 58)

ty, R. L. Boyce & Co. have started to drill a test on the T. V. Gribble farm. In Central district, F. J. Gillespie is hauling rig material to a location on the C. Williams farm. In Collins Settlement district, Lewis County, the C. W. McCall Oil & Gas Co. has made another location on the W. M. Watson farm. In Greene district, Wetzel County, the Pittsburgh & West Virginia Gas Co. started to drill on the S. Morgan farm. In Geary district, Roane County, the Elkins Oil & Gas Co. is due in the Big Injun sand on the Julia Brent & Co. farm. In Spencer district, the Carter Oil Co. is building a rig on the L. S. Morfors farm. The Hope Natural Gas Co. has started to drill on the U. G. Downey farm, in Washington district, Calhoun County. The same company is building a rig on the Charles Conley farm and part of the rig material is at location on the Mary B. Keith farm. In Spencer district, the United Fuel Gas Co. has made a location on the J. L. Meadows farm. In Reedy district, Roane County, the Heck Oil Co. has made a location on the W. T. George farm.

In Liberty district, Marshall County, the Manufacturers Light & Heat Co. is building rigs on the B. & I. P. Chambers and S. B. Higgins farms. The same company is building a road to a location on the W. A. Evans farm. The Waynesburg Oil & Gas Co. has drilled to a depth of 2,416 feet on the Alfred McCluskey farm and shut down. It looks like a duster. In Union district, The U. S. Stamping Co. has made another location on the J. V. Markey farm. In the same district, the Hope Construction & Refining Co. has part of the rig material at a location on the E. A. Kemp farm. In Meade district, the Hope Natural Gas Co. is rigging up on the L. W. Richmond farm. In Center district, Wetzel County, the same company has started to drill on the E. Nutter farm. In Liberty district, Marshall County, the Lynn Camp Oil & Gas Co. is rigging up on the Thomas Blake farm. The Manufacturers Light & Heat Co. has made the location for a second test on the Hannah Price farm, in Battelle district, Monongalia County. In Fairmont district, Marion County, the Owens Bottle & Machine Co. is due in the Big Injun sand on the C. T. Brownlee farm.

HINDERLITER JOINT BREAKER



The HINDERLITER JOINT BREAKER is designed for use in unwrenching a string of tools and is used in connection with a Circle Rack and Jack.

The HINDERLITER JOINT BREAKER positively eliminates all danger of accidents characteristic of the old method of breaking cable tool joints.

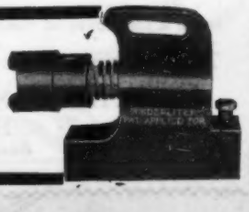
The HINDERLITER JOINT BREAKER is very strong and rugged and is many tons stronger than the Circle Rack and Jack. The pressure exerted on the crow bar does not exert any sideways strain or extension on the Joint Breaker or Rack.

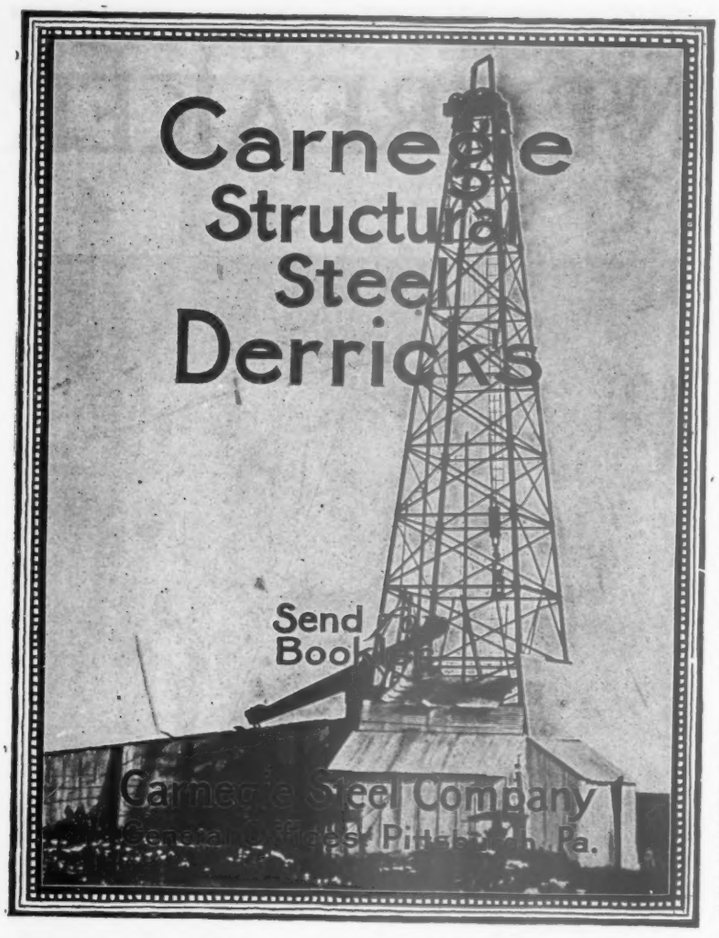
Operators have hailed this invention with enthusiasm and proclaim it to be the safest and most practical tool for its purpose.

HINDERLITER TOOL COMPANY
Tulsa, Oklahoma
Manufacturers of and Specialists in
Drilling and Fishing Tools
Branches in Principal Oil Fields

306

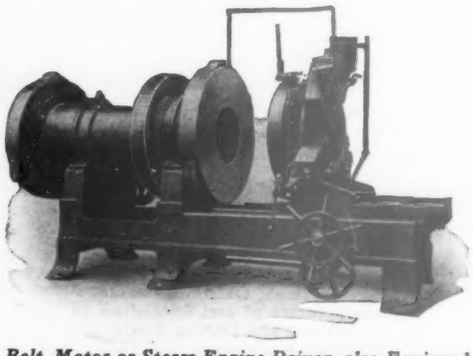
HINDERLITER





Pipe Cutting and Threading Machinery

Sizes Up To and Including 24"



Belt, Motor or Steam Engine Driven, also Equipped for Gasoline Engine Drive

All the important things about a Pipe Machine are here incorporated.

This equipment produces the highest quality of work and does so in a minimum of time and at a low operating cost.

The Verdict of Users in This Country and Abroad.

THE COX & SONS COMPANY
Bridgeton, N. J.
Business Established 1868

MEXICAN FIELDS

(Continued from Page 44)

troleum Corp.'s No. 99, Lot 2, drilled into salt water at 1,992 feet; No. 93, Lot 3, a dry hole at 2,275 feet, and No. 109, Lot 1, salt water at 2,135 feet. In old Panuco, Sol Oil Co.'s No. 3 Tamusol (Federal zone at Tampuche), salt water at 2,470 feet. In Corcovado, Cosmos Oil Co.'s No. 7, Lot G, dry hole at 2,400 feet. In the Topila, East Coast Oil Co.'s No. 508-A, Lot 19 Tamboyoche, a failure at 2,480 feet. In Tortuga, Morrison's No. 9, dry hole at 2,480 feet. In the Ebano, Mexican Petroleum Co.'s No. 5-A Mendez, dry hole at 2,355 feet.

In the south fields, Mexican Eagle Oil Co.'s No. 23 Alazan drilled into salt water at a sub-sea level of 1,780 feet; and the same thing happened to Pantepec Petroleum Co.'s No. 14, Not 114, Chinampa, at a sub-sea level of 1,830 feet.

Another Marland

Cia, Petrolera Franco Espanola, the drilling subsidiary of the Marland interests, has again come into the limelight when it tapped a 1,500-bbl. showing of oil in its No. 24 Limon late last week. This No. 24 is just west, a trifle north, of No. 25, completed some ten days ago for 1,500 bbls. at 2,125 feet. Now No. 24 gets the same volume of oil at 1,855 feet, or 270 feet higher up on the structure. The well was shut down and instructions asked for.

Leonard No. 1

To revert to Corcovado, tools are back in the hole in Leonard No. 1, Lot 11, which was reported possibly bridged last week as it had practically quit flowing after coming in with a big volume of production on March 24 at 1,995 feet. It is evident now that the well bridged. The tools are reported to have encountered the bridge at 1,700 feet, and they are now going to the bottom at 1,900 feet. This well, therefore, has a license to "come back."

The National Lines' No. 12 Chapacao (right-of-way location), is doing around 4,000 bbls. and it is evident that this is what it is worth. Its No. 6 a few hundred feet away, which was shut in when No. 12 came in, continues shut in as it is much deeper than No. 12, the latter being 1,545 feet as against 2,125 for No. 26. Incidentally, these wells are no great distance from Transcontinental Petroleum Co.'s No. 16 Paciencia, which was finished in February at 1,725 feet, and which caused Mexican Petroleum Co.'s No. 5 Chapacao to go to salt water when it came in. This No. 16 showed some salt water and sediment while flowing at the rate of 5,000 bbls. Shut in a while it came back free oil, but the warning was not an ambiguous one.

Field Operations

In the Cacalilao sector of the northern fields, drilling operations at the week-end were as follows: La Corona Petroleum Co.'s Nos. 152 and 171, Lot 1, are cementing 8-inch in the San Felipe at 1,190 and 1,205 feet respectively; No. 172, same lot, is in gray shale at 870 feet; Nos. 169 and 170, Lot 4, are in the San Felipe at 1,370 and 1,450 feet respectively. International Petroleum Co.'s Nos. 169 and 170, Lot 5, are in white lime at 2,200 and 2,060 feet respectively; No. 172 is in gray lime at 1,690 feet; No. 173 is cementing 8-inch in the San Felipe at 1,200 feet; No. 175 is in gray lime with a showing of oil at 1,600 feet; No. 177 cemented 8-inch in the San Felipe at 1,202 feet; No. 178 is spudded; No. 181 is in gray shale at 297 feet; No. 184 cemented 8-inch in the San Felipe at 1,152 feet; and four tests are rigging. Mexican Sinclair Petroleum Corp.'s No. 54, Lot 2, is in shale at 600 feet; No. 64, Lot 3 cemented 8-inch in the San Felipe at 1,220 feet. Mexican Petroleum Co.'s No. 21, Lot 1, is over 1,600 feet in the San Felipe. Transcontinental Petroleum Co.'s operations in Lot 4 follow: No. 130 cemented 8-inch in the San Felipe at 1,250 feet; No. 158 is in the same formation at 1,765 feet; No. 163 is in shale at 500 feet; No. 165 is in lime at 2,060 feet; No. 176 cemented 8-inch in the San Felipe at 1,275 feet; No. 186 is in shells at 1,180 feet. In the Paciencia, just north of Cacalilao, No. 25 is in gray shale at 1,025 feet; No. 26 cemented 12½-inch at 800 feet in the same formation; No. 28 is in the San Felipe at 1,450 feet; No. 30 cemented 10-inch in the same formation at 1,210 feet.

Panuco

In the older sectors of the Panuco Field drilling operations follow: La Corona Petroleum Co.'s No. 97 Salvasuchi cemented 6-inch at 1,215 feet in gray lime, and 98 Ojital is in the same formation at 1,215 feet. East Coast Oil Co.'s No. 20 Laguna de la Milpa is in gray lime at 1,700 feet. International Petroleum Co.'s No. 1 Piedras is in gray shale at 620 feet. Gilliam and others' No. 4, Lot 13 Lomas y Llanos is around 2,150 feet in the San Felipe. Mexican Gulf Oil Co.'s No. 9 Cruz cemented 8-inch in gray lime at 1,600 feet. Schlaet & Co.'s No. 2-A Vega de Otate cemented 8-inch in gray lime at 1,450 feet. The Texas Co.'s No. 9 Cicero cemented 8-inch in gray lime at 1,575 feet.

South Fields

In the south fields, Huasteca Petroleum Co. (Mexican Petroleum) No. 59 Cerro Azul cemented 10-inch in brown shale at 1,628 feet; No. 64 is in blue shale at 550 feet, and is rigging four more locations. In Tierra Blanca, its No. 37 is in brown shale at 1,823 feet; and Nos. 41 and 45 cemented 10-inch at 1,880 and 1,786 feet, in gray shale, respectively. Over in Chapopote Nunez, its No. 10 is in gray shale at 2,410 feet. Up in Tres Hermanos, Huasteca's No. 7 is in sandy lime at 4,063 feet; No. 9 is running 8-inch in the San Felipe at 2,563 feet; and in Granadilla, No. 1 is in gray shale and chalk rock at 4,246 feet. Mexican Eagle Oil Co.'s No. 6, Lot 161 Chinampa, cemented 8-inch in gray shale with pyrites at 2,033 fee; No. 16 San Geronimo is in gumbo at 1,250 feet. Well down south, No. 2 Mecapepec is in hard sandy shale at 3,040 feet, and No. 1 Lot 2 Escobal is re-running 12½-inch in gray shale at 1,521 feet. Island Oil & Transport Corp.'s No. 3, Lot 135 Chinampa, cemented 8-inch in hard gray shale at 1,840 feet, and it is moving in for No. 3, Lot 162, same sector. Mexican Gulf Oil Co.'s No. 10 Chinampa, Lot 163, is rigging. International Petroleum Co.'s No. 50 Toteco is in gumbo at 910 feet. Transcontinental Petroleum Co.'s No. 3, Lot 198 Amatlan is in hard shale at 1,370 feet. Cortez Oil Corp.'s No. 11 Aguada is in gray sandy shale at 4,127 feet.

Corcovado

In the Corcovado sector, in the northern fields, week-end operations exhibited the following: Cosmos Oil Co.'s operations in Lot G: No. 5 is in the San Felipe at 2,065 feet; No. 8 is in gray and brown lime at 1,500 feet; No. 15 cemented 8-inch in gray lime at 1,265 feet; No. 20 is in the San Felipe at 1,525 feet; No. 28 cemented 8-inch in the same formation at 1,165 feet; No. 30 is in green and gray lime at 2,000 feet; No. 31 is in gray lime at 2,060 feet; Nos. 32 and 50 are each in the shales at 285 and 500 feet respectively; No. 51 is spudding and some 14 locations are being rigged. La Corona Petroleum Co.'s No. 8, Lot 6 Corcovado is in the Tamasopa at 2,230 feet; No. 10, same lot, is in shale at 430 feet, and No. 7, Lot 11, is in the same formation at 465 feet. Leonard and others' No. 2, Lot 11, is preparing to cement casing at 1,300 feet in the San Felipe, and No. 3, same, is drilling at gray shale at 700 feet. Mexican Sinclair Petroleum Corp.'s No. 3, Lot 1, cemented 8-inch in the San Felipe at 1,238 feet, and No. 5, same lot, is in blue shale at 280 feet. Mexican Gulf Oil Co.'s operations in Lot 4: No. 17-A cemented 8-inch in the San Felipe at 1,306 feet; No. 24 is in the same formation at 1,780 feet; No. 27 cemented 8-inch in the same at 1,292 feet; No. 1 Chapacao is in white lime at 2,400 feet, apparently a dry hole. Some three locations in Lot 4 are being rigged. Transcontinental Petroleum Co.'s No. 1, Lot 6, is fishing for a bit in the San Felipe at 1,460 feet; No. 2 has had cemented

FOR CLASSY SERVICE
TONGS
TUBING CATCHERS
ELEVATORS
HOOKS
It must be DUNN

DUNN TOOLAGRAM

ORIGINAL
PRACTICAL
ECONOMICAL

economy?

The actual cost of the scrapped tubing shown in this picture would have paid for many Dunn Safety Automatic Tubing Catchers. The chance isn't worth taking when

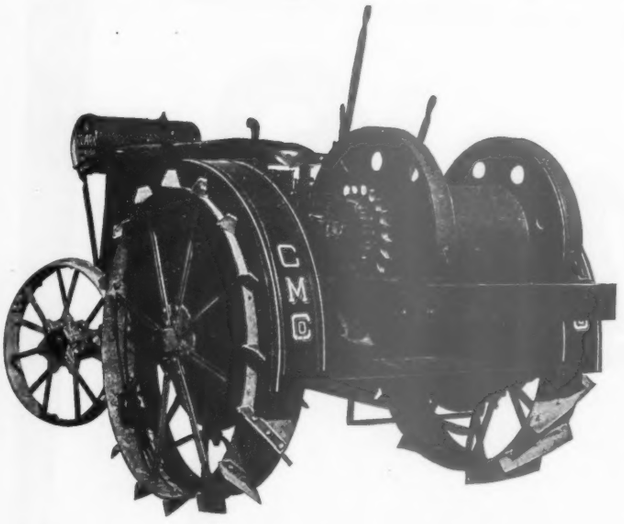
It Can Be Done Safely With
Dunn Safety Tools

1419

OIL WELL PATENTED DUNN TOOLS

DUNN MFG. CO.
OXNARD, CALIF.

Cut Cost of Pulling Wells



Clark Tractor Winch

Manufactured by

Clark Machine Company

Wichita Falls, Texas

In the heart of the liquid gold fields. The largest capacity pulling machine on the market, with the widest range of speed for working at the well or on the road.

Large drum—20 inches in diameter—spools 160 feet of ¾" tubing line without lapping. We eliminate the snatch block on the well platform by backing up to the well and pulling direct from drum over crown block.

Operator faces the well with unobstructed view of the work.

Two powerful service brakes, 37 inches in diameter, 4-inch face.

Four-cylinder heavy duty motor, Bosch Magneto with impulse starter, Kingston Carburetor.

Clark Machine Company

Wichita Falls, Texas

casing tested at 1,203 feet and is resuming to drill in; No. 6 is rigging.

Miscellaneous Northern

At Ebano, Mexican Petroleum Co.'s No. 10 Chapacao is in gray lime at 1,795 feet; No. 20 is in gray shale at 240 feet; No. 23 is in limey shale at 1,251 feet; No. 31 is in blue shale at 195 feet; Nos. 26 and 32 are spudding, and three more locations are being rigged. In the Chijol, No. 30 has cemented 8-inch in shale and shells at 1,115 feet.

In the Topila sector, Credito Petrolero's No. 15, Lot 10 Paciencia de Aguacate is in brown lime at 2,325 feet. Cia. Petrolera Financiera, No. 1, Lot 9, same, is in presumably the San Felipe at 2,370 feet; and No. 8, Lot 5 cemented 8-inch in the same formation at 1,537 feet: Mexican Fuel Co.'s No. 19 Santa Fe is in white lime at 2,225 feet. La Corona Petroleum Co.'s No. 19 Topila is in shale at 530 feet.

In the Marland Field, Cia. Pet. Espanola's No. 23 Limon is in lime at 2,335 feet.

In El Barco, Mexican Gulf Oil Co.'s No. 69 is in brown and white lime at 2,190 feet.

In the Caracol, Venable and others' No. 24 is in blue shale at 700 feet, and a derrick is up for No. 27.

KANSAS FIELDS

(Continued from Page 36)

SW NE SE, Section 28-22-11, is dry and abandoned at 2,100 feet.

Other Greenwood Completions

The York State Oil Co. has completed No. 12, NE cor. SW, Section 32-22-11, for 400 bbls. on the swab after a shot of 120 quarts in sand at 1,931-94 feet. The Empire Gas & Fuel Co.'s No. 2 Cragen, NW cor. SW NE, Section 32-22-11, is a new rig. York State Oil Co. has a rig for No. 14, NW cor. SW SE, Section 32-22-11.

Jennings Brothers have completed No. 5 Green wood, SW cor. NW SE, Section 33-22-11. Sand was 1,898-1,933 feet, and the well is making 60 bbls. after a shot of 120 quarts. The Empire Gas & Fuel Co. has a rig for No. 12 Clopton, NW cor. SW NW, Section 8-23-11.

The Empire Gas & Fuel Co. has completed No. 3 Thrall, SE cor. SW SW, Section 29-23-10. Sand was at 2,299-2,366 feet, and the well made 50 bbls. after a shot of 100 quarts. The Mid-Kansas Oil Co. has completed No. 15 Martindale, NW cor. NE SE, Section 31-23-10. Sand was 2,282-2,348 feet, and the well did 150 bbls. after a 160-quart shot. The Mid-Kansas Oil Co. has completed No. 18 Martindale, CWL SW SE, Section 31-23-10, for 200 bbls. after a 175-quart shot. Sand was at 2,261-2,363 feet. The Mid-Kansas Oil Co.'s No. 23 Martindale, SW cor. NW SE, Section 31-23-10, is drilling at 650 feet.

Roth and others have completed No. 6 Cartwright, CEL NE NE, Section 1-24-9. Sand was at 2,293-2,343 feet, and the well did 100 bbls. after a shot of 90 quarts. Roth and others' No. 7 Cartwright, SW cor NE, Section 1-24-9, is drilling at 700 feet.

The Transcontinental Oil Co.'s No. 12 Olsen, CNL SW SE, Section 11-24-9, had sand at 2,140-79 feet, and is good for 75 bbls. after a shot of 140 quarts.

The Prairie Oil & Gas Co. is spudding No. 12 Hellman, NE cor. SW SW, Section 14-24-9. Its No. 11 Hellman, NW cor. SE SW, Section 14-24-9, is drilling at 1,470 feet. The Mission Oil Co.'s No. 6 Wiggins, C east half NW, Section 23-24-9, is cleaning out after a 75-quart shot. Sand was at 2,127-2,201 feet, and the well is estimated good for 75 bbls. The Mission Oil Co. has a rig on the ground for No. 8 Wiggins, C SW NW, Section 23-24-9.

Rodgers and others have completed No. 12 Cartwright, CWL NW NW, Section 6-24-10. Sand was at 2,297-2,371 feet, and the well is good for 100 bbls. after a shot of 180 quarts.

The Greenland Oil Co. has a rig on the ground for No. 5 Green, NE cor. SW SE, Section 10-23-9. The Phillips Petroleum Co. has a rig on the ground for No. 3, NW cor. SE SW, Section 15-23-9. The Greenland Oil Co. and the Emerald Oil Co.'s No. 2-A Teeter is a rig on the ground. The Empire Gas & Fuel Co. has a rig on the ground for No. 24 Teeter, NW cor. SE NE, Section 16-23-9.

The Greenland Oil Co. is spudding No. 2-B Hartley, SW cor. NW, Section 2-23-9. Murphy and others have a rig for No. 3 Green, SE cor. SW SW, Section 2-23-9. The Transcontinental Oil Co.'s No. 8 Nuttle, SW cor. NE NW, Section 2-23-9, is a new rig. The Emerald Oil Co. has a rig for No. 1 Teeter, SW cor. SE NW, Section 24-23-9. The Skelly Oil Co. and others have a rig for No. 1-A Warrensburg, NE cor. NW NW, Section 13-22-10. The Sinclair Oil & Gas Co. has a rig for No. 16 Browning, NE cor. SE SE, Section 19-22-10. The Sinclair Oil & Gas Co.'s No. 17 Browning, NW cor. SW SW, Section 20-22-10, is a rig on the ground.

The Selby Oil & Gas Co. has a rig on the ground for No. 1, NE cor. SW, Section 11-26-9.

Cowley County

The S. H. E. Oil Co.'s No. 1 Elliot, SE cor. NE SE, Section 17-31-5, had a show of oil 2,940-45 feet, and is drilling ahead at 3,100 feet. Roth and others are building the rig for No. 1 Brandt, NE cor. SE NW, Section 30-31-5.

The Texas Co.'s No. 1 Staggers, NE cor. NW NE, Section 13-32-3, is dry and abandoned at 3,392 feet. T. B. Slick and others' No. 1 Carson, SW cor NE, Section 19-32-3, is drilling at 2,717 feet. This is a twin well to No. 1.

In the Graham Pool, Waite Phillips Co.'s No. 2 Johnson, NW cor. NE SE, Section 9-33-3, had a 3,000,000-foot dry gas blow from 3,153-3,168 feet. The Roxana Petroleum Corp.'s No. 2 Spruens, SE cor. NW SE, Section 9 33-3, had 3,000,000 feet of gas and a show of oil at 3,113-28 feet, 1,000,000 feet of gas at 3,167-77 feet, and has topped the lime at 3,178 feet. The Marland Oil Co. has a rig up for No. 6 Bowers, CSL SW SE NW, Section 10-33-3. The Marland Oil Co.'s No. 1 Wright, NW cor. NW NW, Section 10-33-3, had sand at 3,512 feet, 500 feet of oil in the hole, but had a hole full of water at 3,519 feet. Marland Oil Co.' No. 3 Wright, NE cor. NW NW, Section 10-33-3, topped sand at 3,508 feet, had 1,500 feet of oil and water in the hole, and got a hole full of water at 3,513 feet. It is shut down. The Marland Oil Co. is building the rig for No. 2 Wright, SW cor. NW NE, Section 10-33-3. The Wentz Oil Corp.'s No. 1 Watts, C NE SE, Section 17-33-3, has 10,000,000 feet of gas and is spraying oil from 3,168-3,203 feet. The Roxana Petroleum Corp.'s No. 1, SW cor. SE NW, Section 31-33-3, is spudded.

In the Biddle Pool, McKnabb and others' No. 1, SW College SE, cor. SE SE, Section 11-32-4, is a new rig. The Marland Oil Co. is moving in the rig for No. 2, SW cor. SW SW, Section 13-32-4. The Marland Oil Co. and Neely's No. 2 Rockwell, SE cor. SW NE, Section 13-32-4, topped sand at 2,568 feet, had first oil at 2,569 feet; total depth, 2,575 feet. It flowed 12 bbls. in 12 hours. Hull and others' No. 1, SE cor SE SE, Section 14-32-4, had sand at 2,972-3,011 feet, was shot with 110 quarts and bridged. It is being cleaned out.

In the Winfield Pool, Hull and the Emerald Oil Co. have completed No. 9 Kukuk, NW cor. SW NE, Section 24-32-4. Sand was 2,973-3,054 feet, and the well was shot with 150 quarts and flowed 125 bbls.

Shawver and others' No. 1 Jarvis, NW cor. SW, Section 35-32-5, had a show of oil at 3,085 feet and is drilling at 3,140 feet.

Murphy and others are moving in the rig for No. 1 Devore, SE cor. NW, Section 30-33-5.

Elwell and others' No. 1 Palmer, NW cor. NE NE, Section 17-34-3, is swabbing 75 bbls. from sand at 3,335-3,340 feet. It is drilling at 3,410 feet. Elwell and others' No. 1 Baird, SE cor. SE SE, Section 17-34-3, is spudded and shut down.

Sumner County

The Champlin Refining Co. is spudding No. 1 Stevens, SE cor. SW SE, Section 9-30-1w.

RANGER AREA GETS "BOOM TIME" WELL

(Continued from Page 22)

of the lime production, and above all they remember the boom days. All of the acreage on which these new wells are located was once under lease by the T. & P., but was allowed to lapse when the 5-year leases ran out.

Reason for Wildcatting

The discovery of this pool, if pool it be, within 8 miles of the famous McClesky well which opened up the Ranger Field more than seven years ago, illustrates the whole situation in this region, and shows why wildcatting will be done here for many years to come. It shows that there are probably many undrilled areas of prolific production yet to be found in Stephens, Eastland and adjacent counties although they have apparently been thoroughly drilled from end to end. It isn't safe to call any man a fool for drilling a wildcat or semi-wildcat in this region because he is just as likely as not to open a new pool. The boom days are gone, and with them the hysterical excitement which caused good men to pay $8,000 and $10,000 an acre for unproven acreage. Good management is necessary for operating now in this area but that it is far from "played out," is shown by the new discoveries.

An unusual performance has been noted in a well about 2½ miles west and a little north of the Pritchard. The States Oil Corp. drilled it a little over two years ago on their J. G. Thompson lease, completing it as a 20,000,000-foot gasser. It made gas for the next 18 months, during which time about $35,000 worth of gas was sold from it. Then, about seven months ago it started spraying oil and has gradually increased to 80 bbls. daily.

About 3¾ miles north of the Pritchard well, the Texas & Pacific Coal & Oil Co. appears to have opened a very small shallow pool with a well on the T. L. Adams farm, which came in a week ago last Friday. With the help of a swab it tanked 360 bbls. from 10 feet of sand topped at 2,235 feet. When left alone, it flows about 75 bbls. It was being put on the pump Friday. Thompson & Gholson's No. 1 Young, a quarter of a mile northwest of it, however, appears dry in the same sand, and deep wells to the northeast and south apparently limit the pool to a very small area.

The story about why no control head was on the Pritchard lease when the new well blew in runs to the effect that the owners said "Let's not kid ourselves about getting a well." Responsibility for this suggestion is divided among G. C. Barkley, John T. Crotty, John W. Dix and William Little, the four who are interested in the property.

The Prairie Pipe Line Co. is taking the oil, having strung a gathering line from its trunk line which passes within 1½ miles of the well. If other production is sufficient to warrant it, the Prairie intends to lay a line to the Henson station, 3 miles away.

The average cost of drilling a well in this district now is $25,000. Using second-hand equipment, and salvaging the pipe and rig, a dry hole can be completed with about a $10,000 loss.

NATIONAL PETROLEUM ASSOCIATION MEET

(Continued from Page 21)

It was also suggested as one phase of the group work that all employes of a plant be educated along fire prevention lines. Tentative arrangements were made for Mr. Epps to address group meetings of employes on this subject.

Evaporation Losses

The average loss of complete refineries in Pennsylvania is 4.86 per cent and skimming plants 3 per cent, according to a survey made at the Wednesday meeting. This information was obtained from the refiners during the discussion of preventable losses in plant operation. Basing his figures on the Bureau of Mines reports, H. S. Bell estimated that the loss in evaporation alone would total around $2,000,000 yearly for this district.

The principal address on this subject was made by B. B. Stroud, who is now chairman of the Manufacturing Department of the association. Mr. Stroud's address will be found elsewhere in this issue. Only four or five refiners in this area have installed equipment similar to that described to reduce their evaporation losses and great interest was taken in Mr. Stroud's discussion.

In discussing this subject, Mr. Epps recommended that all tanks be made gas tight. He said his company had found this precaution accounts for 70 per cent of the total saving which they have been able to obtain. He said the Tide Water tanks had been made air-tight at an average cost of $500 per tank. This figure was for steel top tanks. The principal evaporation loss in the tanks came at the top angle joint. This problem he explained, had been solved by caulking with white lead and whiting. This caulking had withstood the weather and breathing of tanks for two years.

He also stressed the necessity of having gas tight gauging hatch and breathing valves. His company uses a mechanical valve with fire screen. He pointed out the necessity of maintaining this equipment in good mechanical condition.

Still Construction

The necessity of having sufficient distance between the bottom of the still and fire grates was emphasized in the general discussion of this subject. Although there was some disagreement in regard to this problem of construction a majority agreed the distance should be at least 7 feet to secure the best results.

Some disagreement was apparent also as to the need of a fill between the front and back bridge walls. It was suggested the back wall should be just high enough to throw the flow of heat against the bottom of the still.

One suggestion was that the space between the two walls be filled slanting upward from the front to the rear wall. Others said they had obtained the best results when the fill was horizontal.

This question was naturally linked up to that of flue and furnace temperatures. Few present had definite data at hand which would indicate the efficiency of their furnaces. Use of various kinds of heat exchangers were suggested as a means of reducing heat losses.

Towers

D. S. Brandt made the principal talk on towers. After reviewing the history of tower design he said he personally favored the bubble cap tower. He recommended in answer to a query that a combination packed and tray tower be used. He said the trouble with a packed type was that it did not adapt itself to variations in operation and must be run slowly. Channeling starts if operated too fast with improper separation.

In this connection the subject of corrosion was brought up. Suggestions covering this matter were conspicuous by their absence although it was apparent its presence at refineries constituted a serious problem. One method of handling this problem, the injection of ammonia into the vapors before they enter the condenser, was suggested.

Wax Sweating

Otto Koch, of the Kandall Refining Co., explained the results he had obtained by following out suggestions from the Bureau of Mines regarding sweat house operations. He said that by placing three fans in the room he had done away with uneven temperatures securing a better melting point and increasing his yield.

The discussion regarding wax brought out a variety of opinions regarding operations and proper equipment. Difference in wax content of the crudes and the grade of lubricants desired had direct bearing on the wax yield. Regarding the size of the cakes, 6 inches was recommended. Five-inch, it was said, would give more wax and 7 inches gave faster production.

Traffic

Indications that the recent decision of the Interstate Commerce Commission lowering rates from Oklahoma to Indiana points might later influence the attitude of the eastern refiners in future rate matters were apparent. The subject was first discussed by Willis Crane, traffic attorney, who made a brief report to the entire association before the traffic men had their group meeting. Although no definite action was taken, it was obvious the refiners fear that additional reductions may be made from Mid-Continent points to points east of Indiana. The Ohio and western Pennsylvania refiners recently asked the I. C. C. to postpone the reduction to Indiana points until after the general rate investigation had been completed. Mr. Crane announced he had just received word that this request in which certain carriers had joined had been overruled, meaning that the rate would probably become effective next month.

Mr. Crane explained several rate matters now pending, including the eastern class rate investigation. This and other rate matters were discussed at the meeting of traffic men.

Fayette B. Dow, Washington, D. C. counsel of the association for several years, told of the work of the Washington office. His activities recently have been confined largely to traffic and rate matters in which in many instances large sums have been saved for the members of the association. The treasurer's report was given by G. B. Hunter.

Standards and Tests

No action was taken in regard to the proposed changes in gasoline specifications as established by the Government. It was stated that this matter was under consideration by the committee which would later make a report with recommendations to the entire association.

Dr. H. J. Masson, in his talk on "Knowledge and Experience in Oil Refining," recommended that refiners employ more young technical men. He suggested the men be employed before they finish their college courses so they could combine the practical plant training with the studies. He also urged more research work on the part of the industry generally.

The meetings were conducted so that a trustee presided at each meeting. Those who presided during the two days were P. S. Tarbox, R. A. Wotowicth and Fred G. Clark.

SOME PRODUCERS ARE SELLING FROM STORAGE

Oklahoma producers with oil in storage have to some extent been putting it on the market recently and some of the larger companies have been buying all or a part of this oil, but one of the major purchasers this week declined an offer of a producing company in the Tonkawa Field to sell 200,000 bbls. of its stored oil at the Prairie Oil & Gas Co.'s posted price, which is below the premium price paid for Tonkawa crude. The purchasing company offered to take the current runs of the company, but refused its stored oil.

SOUTH PENN PROMOTIONS

BRADFORD, Pa., April 25.—J. L. O'Neil, assistant superintendent for the Bradford district for the South Penn Oil Co., has been promoted to the superintendency of the Warren district. He will be succeeded here by A. A. Downing.

PIONEER OIL MAN DEAD

WARREN, Pa., April 25.—Capt. John Joshua Haight, veteran of the Civil War and one of the first oil producers in Forest County, died Sunday at his home in Cooper Tract. He drilled his first well at East Hickory in 1860 and was the producer that started the famous Cooper fields in 1882. He was 86 years old and leaves a widow and one daughter.

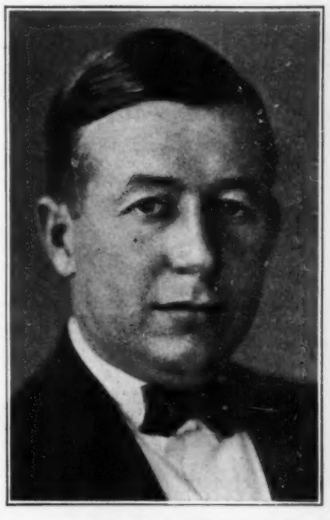
TEXAS OIL MEN MEET

OKLAHOMA CITY, Okla., April 25.—Weston Atwood, of DeLeon, Tex., who formerly lived in Oklahoma City and was founder and president of the Atwood Refining Co., has been elected vice president of the Texas Independent Oil Men's Association at Lubbock. Panhandle oil dealers present agreed to hold their next meeting at Lubbock.

JOHN H. MORAN FORMS NEW SUPPLY COMPANY

John H. Moran, with the International Supply Co. for two years, and prior to that a member of the Lucey Manufacturing Corp. staff has left the International and has formed the John H. Moran Co., with offices and warehouse at 436 West First Street, Tulsa.

Mr. Moran has contemplated this move



John H. Moran

for several months, and in his new company will have associated with him as stockholders several men of wide oil field experience.

The John H. Moran Co. will handle production equipment specialties. Mr. Moran is a product of the oil fields and his lifetime spent in the oil business enables him to properly gauge the needs of the industry in his line.

VAN DE GRACHT RESIGNS

W. A. J. M. Van Waterschoot Van de Gracht has resigned as president of the Marland Oil Co. of Texas owing to the recent increase of his duties as a member of the board of directors of the Marland Oil Co. In an announcement of his resignation he states it has been impossible for him to give enough of his time to the interests of the Marland Oil Co. of Texas, and that his resigning from the position of president will permit him to more evenly divide his time among that and the other subsidiary companies of the Marland group.

F. Park Geyer has been elected president of the Marland Oil Co. of Texas. Alexander Deussen and C. E. Hyde were elected new vice presidents of the company and W. A. Moncrief was reelected a vice president.

CHEMICAL SOCIETY MEETINGS

Dr. George A. Burrell, secretary of the Petroleum Division of the American Chemical Society, announces that the second yearly meeting of the American Chemical Society will be held this year at Los Angeles, Calif., in August, and that the spring meeting, April, 1926, will be held in Tulsa, Okla. Petroleum subjects will largely feature the meetings.

DEATH OF J. GASCOINE

CHATHAM, Ont., April 25.—John James Gascoine, formerly well known in Canadian oil circles, passed away at Petrolia recently in his 60th year. Prior to 1906 he was manager of the Strathroy Petroleum Co.'s plant at Marthaville, but later moved to Petrolia where he ultimately engaged in other lines of business.

Oil Securities Were Irregular But Dull

Growing Disposition to Discount Increase of Production in Smackover With Belief That Petroleum Industry Is in for Very Good Year

By N. O. Fanning
Room 543, No. 30 Church St., New York

NEW YORK, April 27.—Oil stocks continued irregular and dull during the past week. Anglo-American Oil reached a new high at 26¼ on on the unconfirmed report that the company planned to declare a 33⅓ per cent stock dividend. There seems to be a growing disposition to discount the increase in production at Smackover and to believe that the petroleum industry is in for a very good year. This has not brought about a general resumption of buying of oil securities due to weakness in the situation in other industries and consequent nervousness in the stock markets as a whole.

Anglo-American Oil

Anglo-American Oil Co. plans to declare a stock dividend shortly, according to unconfirmed reports. Action is expected at the next dividend meeting, to be held in May.

Associated Oil

Associated Oil stock has been more active than usual recently and has advanced to 36½ against a recent low of 32⅞. The company's stock is about 60 per cent controlled by Pacific Oil Co. It is reported Pacific Oil will make an offer to take over the remaining 40 per cent of Associated Oil stock in the not distant future. Standard Oil of California has also increased its holdings of Pacific Oil stock, according to reliable reports. This all points to a closer relationship between the Standard Oil Co. of California, Pacific Oil Co. and Associated Oil Co.

Union Tank Car

In view of the favorable earnings reported by the Union Tank Car Co. in the last two years, it is expected the company will restore the $7 dividend rate as soon as an estimate can be made of the results of the present year's business. It is entirely probable the stock may be split up into units of $25 par value, also.

Tide Water Oil

In line with forecasts made in this column more than a month ago, directors of the Tide Water Oil Co. have passed a resolution recommending that the capital stock, now of a par value of $100, be changed into stock without par value on a basis of four shares of new stock without par value for one share of the present $100 par value stock. Action on the recommendation will be taken by stockholders at the annual meeting May 6. At present Tide Water Oil Co. has outstanding 504,429 shares of $100 par value capital stock, with no preferred.

Sinclair Reports Loss

The annual statement of the Sinclair Consolidated Oil Corp. for 1924 shows a deficit after deducting interest, taxes and reserve for depreciation, depletion, etc., of $2,149,268, against a deficit of $1,289,049 in 1923.

The income account for 1924 compares with 1923 as follows:

	1924	1923
Gross earnings	$123,894,048	$107,592,665
Expenses, maintenance, etc.	*107,467,118	94,156,161
Int., discount, etc..	6,036,138	3,435,880
Depreciation, depletion, etc.	12,540,060	11,289,673
Deficit	$2,149,268	$1,289,049
Preferred dividends.	1,512,990	1,571,172
Common dividends .	4,486,384	8,970,999
Deficit	$8,148,642	$11,831,220

*Includes taxes.

The consolidate balance sheet of the Sinclair Consolidated Oil Corp. and subsidiaries as of December 31, 1924, compares as follows:

Assets	1924	1923
Real estate, leases, plant, etc.	$314,284,383	$291,052,553
Investments	60,035,238	63,737,573
Specific funds	1,511,002	2,235,050
Cash	6,174,807	7,999,607
Accounts and notes receivable	11,028,922	9,585,387
Employes stock subscription	920,118	979,951
Inventories	24,304,688	23,564,717
Advances, etc.	419,325	810,513
Marketable securities	3,763,522	4,219,580
Deferred charges	8,905,157	8,180,869
Total	$431,347,162	$412,365,800
Liabilities		
Common stock and surplus	$214,928,768	$223,402,236
Preferred stock	18,541,100	19,278,600
Minority subsid. cost	109,790	109,990
Depreciation, depletion, amort. res.	85,148,177	70,690,881
Funded debt	93,307,500	73,973,000
Purchase money obligations	2,998,787	4,514,074
Notes payable	3,600,000	11,600,000
Accounts payable	9,878,377	6,522,924
Accruals, etc.	2,834,663	2,274,095
Total	$431,347,162	$412,365,800

H. F. Sinclair, Chairman of the Board of the Sinclair Consolidated Oil Corp., states in the annual report that the normal daily crude oil charging capacity of the company's refineries has increased from 21,100 to 80,500 bbls. The number of bbls. of crude oil refined in 1916 was 4,501,000 bbls. and in 1924 was 12,892,000 bbls. The number of gallons of gasoline produced increased from 50,078,000 in 1916 to 298,652,000 gallons in 1924.

Marland Oil Report

The Marland Oil Co., reports for 1924 net income of $354,306 or 23 cents per share on the 1,549,961 shares of no par value stock outstanding, compared with $1,723,000, or $1.52 per share, on 1,132,184 shares in 1923.

The consolidated income account for the year ended December 31, 1924, compares with 1923 as follows:

	1924	1923
Gross earnings	$33,205,450	$32,937,409
Oper. and admin. expenses	27,952,940	30,432,562
Net earnings	$5,252,510	$2,504,847
Other income	4,005,507	5,139,542
Gross income	$9,258,017	$7,644,389
Int. and discount	1,148,574	1,418,582
Depreciation	2,182,868	1,702,111
Depletion	1,573,795	648,238
Lease, charged off	1,752,407	891,796
Red. crude invent.	1,077,166	1,350,202
Disc. and prem. retired bonds	876,750	.....
Investments chgd. off.	291,151	.....
Net income	$354,306	$1,723,000

The consolidated balance sheet as of December 31, 1924, compares as follows:

Assets	1924	1923
Real estate, leases, etc.	$57,256,120	$51,486,061
Marland Oil, Mex., stock	3,693,761	1,925,488
Cons. Oil Mex. stock	2,847,520	1,495,120
Comar Oil stock	2,776,386	2,776,386
Misc. invest. and advances	1,882,683	2,039,967
Unadjust. debits and sundries	1,935,304	1,848,122
Cash	3,444,783	3,477,620
Bills receivable	239,901	99,219
Accounts receivable	5,855,528	3,736,570
Inventories crude oil.	8,491,165	3,216,062
Materials and supplies	1,569,817	1,301,632
Prepaid ins. and int.	103,317	258,740
Interest rec. accrued	9,222	2,181
Miscel. demand items	159,497	128,239
Total	$93,869,943	$76,278,375
Liabilities		
*Capital and surplus equity	$70,526,235	$58,227,347
†10-year 5% notes	20,000,000	.....
10-year bonds	.....	5,052,000
Purch. money lease oblig.	.....	3,291,123
8% equip. tr. certif.	521,000	696,000
Tank car notes	.....	48,112
Minority int. stock subsid.	178,213	198,118
Bills and accounts payable	2,344,292	8,450,776
Accrued interest, taxes, insurance	300,202	314,897
Total	$93,869,943	$76,278,375

*Less depreciation. †Due 1926.

Houston Oil

The Houston Oil Co. reports for the quarter ended March 31,1925, net earnings of $584,802 after expenses and taxes but before deprecition and depletion. The income account for the quarter ended March 31, 1925, follows:

Gross earnings	$908,612
Expenses and taxes	323,810
*Net	$584,802

*Before depreciation and depletion.

Pure Oil

The consolidated income of the Pure Oil Co. for the eight months ended November 30,1924, shows net income of $9,671,882 after taxes, interest and depreciation.

Skelly Oil

The Skelly Oil Co. for the year ended December 31, 1924, reports gross earnings of $18,296,827, and net after taxes and other charges except depletion and depreciation, of $4,707,054.

White Eagle Oil & Refining

White Eagle Oil & Refining Co. reports for the quarter ended March 31, 1925, net income of $812,853 after expenses and miscellaneous charges, but before depreciation, depletion and Federal taxes.

Pacific Oil

The preliminary report of the Pacific Oil Co. for 1924 shows net profit of $11,893,766 after Federal taxes and reserve for depreciation and depletion, equivalent to $3.40 per share earned on 3,500,000 no par value shares of capital stock, compared with $2.55 per share in 1923.

Cities Service Co.

The report of the Cities Service Co., of which the Empire Gas & Fuel Co. is the principal subsidiary in the Mid-Continent Field, for 1924 shows gross earnings were $17,463,217.71, compared

(Continued on Page 111)

NEW YORK STOCK EXCHANGE—LIST OF ACTIVE STOCKS

Stocks	Par	$Dividends Rate	Clos. Apr.27	Quot. Apr.20.	1925 High	1925 Low	1924 High	1924 Low	1923 High	1923 Low
American Republics	..	..	*51	*40½	66¼	48	48	25	..	..
Associated Oil	25	6	35	33	39½	32	34⅝	27⅝	29¼	29½
Atlantic Ref. com.	100	..	101⅞	*102	117½	95⅛	140½	78½	160	98¾
Barnsdall "A"	25	..	*22	22	28¾	21	22¼	14	37	9⅞
California Pet. com	25	7	29	28¾	32⅝	23⅞	29	19⅞	28⅛	17½
General Am. Tank	..	†3	45⅜	*46	58½	45	53	35½	71⅝	40
General Petroleum	25	8	50⅝	50	57½	42	45	38⅝	..	..
Houston Oil	100	..	59⅝	61	85	60⅝	82½	61	78	40¾
Independent Oil & Gas	..	†1	24¼	23½	33½	13½	16¼	5⅜	11¼	3⅝
Indian Refining	10	..	7¾	7½	10⅜	5½	7	3⅜	8½	4
Louisiana Oil	50	..	17	16¼	23⅜	14⅝	..	..	..	..
Maracaibo	..	..	26¼	26⅝	35½	25½	37½	25⅜	28¼	16
Marland	..	..	36⅜	35	46¼	32⅝	42	29	59⅝	18½
Mexican Seaboard	..	..	16½	17	22½	11½	25⅜	14½	19⅜	5⅜
Mid-Continent Pet.	..	..	27½	27	35⅜	26⅛	40¼	22⅝	62¼	23¾
National Supply	50	6	*63¾	*63	71	61⅜	72½	54	68	54
Pacific Oil	50	†2	55½	55⅝	65¼	52¼	58¼	45	52⅛	31½
Pan American com.	20	12	72½	73⅝	82¾	65	65	44¼	93½	53
Phillip Petroleum	..	†2	39	38¼	46⅜	36¼	42½	28½	69⅝	19¾
Producers & Refiners	50	..	23	22⅝	32⅝	22	43½	29¾	58¼	17½
Pure Oil com.	25	6	26	36	33⅜	25½	30¼	20	32	16¼
Royal Dutch, N. Y. sh.	13.40	4.42½	49	48½	57⅜	48¼	59½	40⅜	55⅛	40½
Shell Transport	10	3.30	40¼	*39¼	45⅜	41	42	33	41¼	29½
Shell Union com.	..	†1	23½	23⅝	28⅜	22½	22½	15⅜	19¼	12⅜
Simms Petroleum	10	..	22½	22⅞	26⅜	19½	24	10⅜	16⅜	6½
Sinclair Consolidated com.	..	..	18½	18¾	24⅞	17	27½	15	39⅜	16
Skelly Oil	25	..	23¼	22⅞	30½	21⅝	29	17⅛	35	12¼
Standard of California	25	8	58½	58¼	67¼	56⅝	68½	55½	64½	47½
Standard of N. J. com.	25	4	41⅜	41	47½	38⅜	42¼	33	44¼	30⅞
Superior Oil	6	..	4	4¼	6¼	4	8¼	2⅝	6⅜	2
The Texas Co.	25	12	43½	43⅝	49	42⅜	45⅝	37⅜	52⅞	34⅝
Texas Pacific Coal & Oil.	10	..	14⅝	13¼	23⅜	11½	15¼	8½	24⅜	5½
Tide Water Oil	100	4	133	130	152	122	151	116¼	144	94
Transcontinental	..	..	4	4⅜	5½	3⅞	6¼	3¾	14½	1¼
Union Oil of California	25	7.2	36½	36⅝	43⅞	36¼	39	35½	..	..
Union Tank com.	100	5	122	122½	127⅜	118½	132⅞	94	114	106
White Eagle Oil & Ref.	..	2¼	*26	26	31⅜	25⅝	29⅜	23⅛	30⅜	20½
Standard Oil Stocks										
Anglo-American Oil	£1	25	25¼	24⅝	26¼	18	18¾	14⅜	19¾	13½
Borne Scrymser	100	12	*202	*205	240	212	264	150	153	110
Buckeye Pipe Line	50	14	*61	*60½	72	60½	85½	51	94	57½
Chesebrough Mfg. Co.	25	14	*58	*58	70	48¼	52½	29¼	340	205
Crescent Pipe Line	25	..	11	*11	15⅝	11	20	11¼	25	15
Cumberland Pipe Line	100	12	145⅞	*143	150	128	148	109	117	80
Eureka Pipe Line	100	8	*77	*78	96	80	105	74	117¼	87
Galena Signal com.	100	4	*54	55½	68½	55	69⅜	52⅛	78	55
Humble Oil & Refining	25	4.8	46⅞	46⅛	47⅝	42¼	43⅝	36	41	28¼
Illinois Pipe Line	100	12	145	145	154½	127	161	123	171	116
Imperial Oil, Ltd.	..	†2	29½	28⅜	34⅛	27⅜	119	99	123	92
Indiana Pipe Line	50	8	71	*71	84	70	100	66	103	81
International Pet. Co.	100	x50	24¼	24	28⅜	22⅛	24⅜	16⅞	24⅜	13¼
Magnolia Petroleum Co.	100	4.5	*130½	133	159	131½	162	124	166	123
National Transit	12.50	16	22	22⅛	25½	22⅛	25⅞	20⅝	29	19½
New York Transit	100	3	*64	*64	79	64¼	97	54½	138	70
Northern Pipe Line	100	6	*83	*83½	88	80	107½	72	111	96
Ohio Oil Co.	25	8	64	*63½	75¼	62¼	79½	53	85⅝	48¾
Pen.-Mex. Fuel	25	..	*35	40	44	35⅜	45⅝	27	45	10½
Prairie Oil & Gas	25	†2	54⅜	55	65½	50¼	269	193	272	152
Prairie Pipe Line	100	8	116½	115½	126	106	111	100	117	93
Solar Refining Co.	100	15	*213	*215	259	200	240	170	212	161
South Penn Oil	100	..	165	162	197	139	176	117	196	100
South West Pa. Line	100	6	*67	*67	84	65	83	68	89	66
Southern Pipe Line	100	4	*81½	81⅛	103	81⅛	100	80½	116	87
Standard of Indiana	25	10	62¼	61⅞	70	59½	69⅝	54¼	69⅞	48⅛
Standard of Kansas	25	..	31⅛	*31	46	31	50½	32½	56¼	26½
Standard of Kentucky	25	16	118	115⅞	124½	114⅜	121⅛	101	109½	76
Standard of Nebraska	100	20	*243	245	270	244	262	198	280	186
Standard of New York	25	5.6	42	42	48⅝	41⅛	48	37⅜	49⅜	35½
Standard of Ohio com.	100	10	*345	348	369	338	337½	277	320	270
Swan & Finch com.	25	..	*17	*17½	27	16	28	20	..	..
Vacuum Oil	25	†3.75	85	86½	96¼	80⅛	83¼	56⅛	55½	40
Washington Oil	10	..	*30½	*30½	30⅛	30	29	25	28	20½
Miscellaneous Stocks										
Cities Service bks. sh.	‡	..	17⅝	17⅞	21	17	19	13¼	18½	12¾
Continental	10	10	23⅝	22⅞	31⅛	21⅞	..	..	..	..
Gulf Oil Corp. of Pa.	25	6	64	64	71	63½	67⅜	56	68¼	45⅝

*Bid, no sales. †In dollars. ‡Six per cent cash and 6 per cent scrip annually. ¤The figures in this column are kept up to date as far as possible, but are not guaranteed. xCents per share.

The Oil and Gas Journal's weekly average price of 20 representative petroleum stocks listed on the New York Stock Exchange was as follows:

April 27	52.70	Mar. 23	52.90	Feb. 16	55.96	
April 20	52.96	Mar. 16	54.14	Feb. 9	58.39	
April 13	53.49	Mar. 9	57.73	Feb. 2	59.24	
April 6	54.63	Mar. 2	59.56	Jan. 26	56.09	
Mar. 30	51.28	Feb. 23	58.02	Jan. 19	54.58	

DEPRECIATION

Every barrel of oil that flows from a well, that is pumped its lengthy course through a pipe line, or that emerges as gasoline or lubricating oil from a refinery, carries away with it a fraction of the value of the property used in its production.

Unless you know precisely what that reduction in value is, you cannot know definitely:

(1) How much to set aside to protect the integrity of your investment or your property.

(2) What your cost of operation is, and consequently whether your profit and loss statement is right or wrong.

(3) How to definitely prove to your stockholders or bankers the real worth of your physical assets.

(4) Whether your insurance coverage on insurable properties is adequate to assure full indemnification in case of loss.

The analysis of depreciation and depletion, the correct determination of actual investment in properties, and the establishment of provable value is possible only through appraisal service.

The importance of such an investigation demands the best available. Every day the owners of more than four million dollars worth of property express their judgment as to the best by retaining The American Appraisal Company.

Send for the American Appraisal pamphlet S-4

"The Appraisal of Oil and Gas Lands"

THE AMERICAN APPRAISAL COMPANY

Railway Exchange Bldg., St. Louis	Healey Bldg., Atlanta	Munsey Bldg., Baltimore	Mercantile Bank Bldg., Dallas	Whitney Central Bldg., New Orleans
Atlanta	Cincinnati	Los Angeles	Philadelphia	Syracuse
Baltimore	Cleveland	Milwaukee	Pittsburgh	Washington
Boston	Dallas	Minneapolis	San Francisco	The Canadian
Buffalo	Detroit	New Orleans	St. Louis	Appraisal Co., Ltd.
Chicago	Indianapolis	New York	Seattle	Montreal Toronto

An American Appraisal

© 1925, The A. A. Co.

THE AUTHORITY

INVESTIGATIONS · VALUATIONS · REPORTS · INDUSTRIALS · PUBLIC UTILITIES · NATURAL RESOURCES

REFINING AND MARKETING

MISSOURI OIL MEN PLAN SPRING SESSION

KANSAS CITY, Mo., April 28.—Although the program has not been completed, a discussion of methods of reporting and remitting gasoline tax collections will feature the spring meeting of the Missouri Oil Men's Association to be held at Excelsior Springs, Thursday and Friday, May 21 and 22. George S. Allee, secretary, has announced.

In addition, on the program will be Robert W. Otto, attorney general of Missouri, who will talk on the anti-discrimination law as it applies to the oil industry in Missouri. A. W. Butler, State oil inspector, will lead a review and discussion of the new oil inspection law.

Elaborate preparations are being made for the entertainment of the Missouri oil men at Excelsior Springs. The meeting has been set for the last of the week and arrangements made so the visitors can remain at the springs over the week end. The annual election of officers also will be held at the convention.

OHIO STANDARD ADDS TO TOLEDO REFINERY

TOLEDO, Ohio, April 28.—Construction of a $1,000,000 addition to the refinery of the Standard Oil Co. of Ohio, on Maumee Bay here has been started. The new plant, which will handle heavy oil, is one of the units of the refinery originally planned and follows the regular plan of development of the company.

The plant, which has been operating four years, has been turning out chiefly gasoline. It handles about 12,000 bbls. of crude oil daily received by pipe line from Mid-Continent fields. The new construction will complete the heavy oil handling section of the plant.

H. J. Spieker Co. is completing the new shops of the Union Tank Car Line Co. near the refinery to handle tank repair jobs at the refinery terminals.

PREPARING CASPER PLANT

CASPER, Wyo., April 28.—Because of repair and construction work, The Texas Co. refinery at Casper is operating only half time. The day shift men have been taken off the stills and a great portion of them put to work on construction. The plant is expected to be ready for full time operation within 15 days.

TO IMPROVE STATIONS

LINCOLN, Neb., April 28.—More than $200,000 is being spent by the Continental Oil Co. at Lincoln in general improvement of its stations and offices. The company has leased an entire floor of the old Star building, and also is building a new storage plant. The Lincoln office will have charge of operations in Nebraska and South Dakota and will be in charge of E. T. Smith as division manager. He will take up his duties in the near future.

CALIFORNIA GASOLINE TAX

SACRAMENTO, Calif., April 28.—Passed by both houses of the legislature, the bill to increase the State tax on gasoline sales from 2 to 3 cents has been sent to the Governor for approval or veto.

MISSOURI OIL LEGISLATION

JEFFERSON CITY, Mo., April 28.—Of the nine bills affecting the oil industry proposed in the last session of the Missouri Legislature which has just been closed, six were passed, two killed and one died on the senate calendar for the third reading.

COMPLETES CRACKING PLANT

OKLAHOMA CITY, Okla., April 28.—The Miller Petroleum Co. has completed a cracking plant at Wichita Falls, Tex., at a cost of $100,000. The complete refining plant now has a daily capacity of 3,000 bbls. of gasoline. The company has a 2,000-bbl. refinery at Humble, Kans. Directors recently held a meeting in Wichita Falls, attended by J. H. Miller, of Kansas City, president; F. L. Miller and G. E. Craig, of Kansas City, vice president and secretary, W. S. Tarbell, of Denver, Joseph Longshore, of Topeka, Kans., and William Weber and H. T. Smart, of Wichita Falls.

GASOLINE MOVEMENT BIG OIL CITY REPORT

OIL CITY, Pa., April 25.—The situation as regards gasoline and kerosene in the northwestern Pennsylvania refinery district is encouraging but that of the other products is not any better than it has been for some time, perhaps, if anything, it is a little worse.

Gasoline is moving in big quantities from all the northwestern Pennsylvania plants. This demand in large measure is because of favorable weather. Marketers and jobbers are actively entering the market.

The tractor trade still is making its influence felt on the kerosene business and this has held prices firm.

All of the other products on the list, with the possible exception of wax are weak.

SITES ARE CONSIDERED FOR OIL SHALE PLANT

DENVER, Colo., April 25.—F. B. Tough, chief petroleum engineer of the United States Bureau of Mines, expects to receive within a few days blueprints of proposed aerial trams for the two sites under consideration on the Western Slope for location of the new Government oil shale experimental station, for which Congress has appropriated $90,000. The blueprints are being prepared by the Bureau of Mines experimental station at Boulder and as soon as they are ready Mr. Tough will invite bids for construction of the tram.

The sites being considered by Mr. Tough following his recent visit to the Colorado oil shale country are located near Rulison on the Denver & Rio Grande Western Railroad, between Rifle and Grand Valley. The shale to be used will be mined from the Naval reserve.

Whether the station will be built on one of these two sites depends, Mr. Tough said, on the cost of the tram. If it is considered too expensive then another site will be picked.

J. S. Desmond, assistant chemical engineer from the San Francisco office, who has been assisting in the selection of a site, has been selected as engineer in charge of the new station.

NAVY'S FUEL BIDS

WASHINGTON, D. C., April 28.—Bids are being asked by the United States Navy for furnishing fuel oil to cover its requirements from July 1, 1925 to June 20, 1926. It is estimated that 350,000 bbls. of bunker "C" grade fuel oil and 18,000 bbls. of Diesel engine fuel oil will be required. Bids will be opened May 12, 1925.

DENIES EXPANSION REPORT

EL DORADO, Ark., April 28.—Reports that the Henry H. Cross Co. would increase the size of its 2,000-bbls. capacity refinery here have been denied by Henry H. Cross, of Chicago, head of the company. Recently one additional cracking still was installed.

WOULD LIMIT USE OF OIL

CHICAGO, April 25.—In the bulletin of the National Petroleum Marketers Association the suggestion is made to the Conservation Board and the exponents of the plan presented by Henry L. Doherty that it be made illegal to use crude oil or fuel for any other product of petroleum, except in the Army or Navy, for "inferior uses."

"Every gallon of crude oil," it is argued, "should be cracked and converted into gasoline, or other internal combustion engine fuel if the theory is correct that petroleum is a dangerously wasting industry. Personally we do not believe it is."

REPORT INDIANA SEEKS CONTROL OF LAGO CO.

The Standard Oil Co. of Indiana, according to the London bureau of the Wall Street Journal, is negotiating to acquire further interest in Lago Petroleum.

In the transaction whereby Standard Oil of Indiana secured control of Pan American Petroleum & Transport Co., it acquired control of British-Mexican Petroleum Co., which in turn owned 800,000 shares of Lago Petroleum. Present negotiations are understood to be for 1,250,000 shares additional, thus giving it actual control of Lago.

It is also expected, the report adds, the Standard Oil of Indiana-Pan American group will secure control of Agwi.

CALIFORNIA MARKET SOFT, FEATURELESS

LOS ANGELES, Cal., April 25.—The California market remains featureless with a tendency toward softness. Marketers seem trying to hold their own on prices and volumes, trusting the situation will improve with the summer demand.

Smackover production and the possibility of increased production on the Gulf Coast is being felt distinctly in California, where 10,000,000 bbls. have been put into storage since November 1, bringing the total stocks to nearly 131,000,000 bbls. The oil is being put into storage approximately 2,000,000 bbls. a month. This cannot continue indefinitely. Considering these factors, it is remarkable the Pacific Coast market has held so well.

The natural gasoline market is sensitive to all changes in straight run gasoline and has changed within a few weeks from a seller's to a buyer's market. In Southern California alone March shows an increase in production of 30,000 gallons daily over February. April should show a higher yield. Just how far production will go is hard to determine but the tendency for the next few months will be upward rather than downward.

BUSSES SUPPLANT TROLLEYS

BOSTON, Mass., April 25.—Public Service Commission of New Hampshire has approved the application of the Boston & Maine Transportation Co. to operate motor busses in Porthmouth and vicinity. This bus line is to take place of street cars operated by the Portsmouth Electric Railway, owned by Boston & Maine.

INCREASE REFINERY CAPACITY

HOUSTON, Tex., April 25.—Capacity of the Pure Oil Co.'s refinery at Smith's Bluff will be increased 5,000 bbls. to a total of 20,000 bbls. daily by the improvements to be made at the plant in the near future, according to B. G. Dawes, president. The improvements and expansions will cost $1,000,000.

MINNESOTA OIL MEN HOLD ANNUAL SESSION

MINNEAPOLIS, Minn., April 23.—Officers and directors of the Minnesota Petroleum Association were reelected at its annual two days' convention here. The officers reelected are: J. M. Wolf, Fairmont, president; R. A. Gulbranson, St. Paul, first vice president; William A. Syreen, Ironton, second vice president; J. R. Leach, Stillwater, secretary and Paul E. Hadlick, Minneapolis, secretary.

Directors reelected are: J. A. Farry, Albert Lea; H. W. Footh, Mankato; E. L. Lyman, Rochester, and William A. Syreen, Ironton. Terms of the other eight directors did not expire this year.

A discussion of the new gasoline sales tax, which goes into effect in Minnesota May 1, and explanation of the working of the law featured the convention. Resolutions were passed expressing the desire of the association to cooperate with the oil inspection department in the collection and administration of the gasoline tax.

L. V. Nicholas, president of the National Petroleum Marketers' Association, was one of the principal speakers on the program.

PLANNING FOR SESSION OF KANSAS OIL MEN

WICHITA, Kans., April 28.—Plans are being completed for the eleventh annual convention of the Kansas Oil Men's Association to be held at Wichita May 14, according to C. R. Howard, president. Because of a prosperous year in Kansas, the meeting is expected to be the best and largest in the history of the association.

The convention is being held earlier than usual this year so that the new gasoline tax law, which goes into effect May 1, can be explained to the jobbers as soon as possible. The association has been besieged with inquiries from members of the organization regarding functions of the new law. These inquiries will be answered at the convention.

Among prominent speakers to attend the convention will be James A. Veasey, general counsel of the Carter Oil Co., and Governor Ben S. Paulen. New officers will be elected at the session.

SELL SHALE OIL PATENTS

SANTA BARBARA, Calif., April 28.—The large shale oil extraction plant of the Shale Oil Products Co., at Santa Maria, has been sold to a syndicate of Los Angeles capitalists for $2,500,000. Sale carries title to patents perfected by the late David T. Day for the extraction of oil from shale.

MANHATTAN CO. EXPANDS

KANSAS CITY, Mo., April 28.—The Manhattan Oil Co., a marketing firm, has purchased the King City Oil Co., of King City, Mo., the Bassett Oil Co., of Bassett, Iowa, and the Chillicothe Oil Co., of Chillicothe, Mo. In addition to the stations already operated by the purchased companies, the Manhattan firm is building a number of other stations.

NEBRASKA OIL MEETINGS

LINCOLN, Neb., April 28.—Plans for a series of district meetings of the Nebraska Independent Oil Men's Association to be held the last of May are being made by officers of the State association, according to Charles M. Sutherland, secretary. The meetings probably will be held at Grand Island or Hastings, Norfolk, McCook or North Platte, Beatrice or Lincoln. The meetings will be held to discuss questions arising out of the new gasoline tax.

Fractionation With Pressure Stills

Great Strides Made in the Development of the Tube and Tank Process. Change in Operating Methods Increase Yield

CONSTRUCTION AND OPERATION

The accompanying article is the fourth of a series on fractionation and tower design by I. B. Chittenden, refinery engineer.

The first article dealt with tower design for shell stills, the second with tower design and pipe stills and the third discussed fractionation methods and steam stills.

In this article the writer explains the main construction and operating features of the Tube and Tank Process based on an actual installation with which the writer is acquainted.

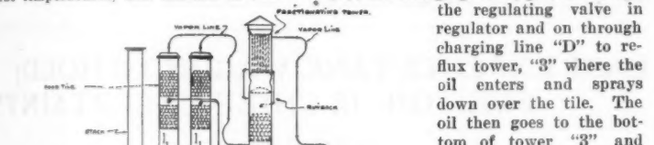
In my previous articles I discussed fractionating equipment used with crude or pipe stills, and steam stills. Great strides have also been made in the development of fractionating equipment with pressure stills. It is common practice, in present day methods of operation to attain 36 per cent of specification gasoline with recoveries as high as 55-60 per cent.

The writer wishes to present actual runs which are illustrative of the great strides made, in the development of Tube and Tank pressure stills with properly designed fractionating equipment, as herewith presented:

56.8 per cent gasoline
5.1 per cent stove distillate
9.9 per cent gas oil
4.9 per cent coke
20.0 per cent fuel oil
3.3 per cent loss

100.0 per cent total.
145 pounds operating pressure
200 hours on stream
33.2 gravity gas oil charging stock
800 bbls. per day average throughout
53.0 gravity of pressure distillate.

The temperatures, and method of control in this operation, were very much simplified by the unique design of the tower equipment which has proved very efficient. By increasing our vapor pressure, and proportioning our reflux, and raw feed charges to the still and tower, an appreciable increase in percentage was rated.



The yields, are submitted herewith, in comparison to the figures presented above:

64. 2 per cent gasoline
4. 7 per cent stove distillate
17. 8 per cent gas oil
8.18 per cent coke
5.15 per cent loss

100.00 per cent total.
180 pound operating pressure on stove distillate,
34.7 gravity gas oil
8 days on stream
54.7 gravity of pressure distillate.

The greater recoveries were made possible by better design of the fractionating towers and the improvement in the methods of operation.

The accompanying sketch is explanatory, of the development made in design of pressure stills, known as the "Tube and Tank" type. The assembly of the equipment, as shown, is unique, well balanced, and adaptable to commercial uses, ranging in capacity from 500 bbls. per day to 1,500 bbls. per day. The operating pressures can be fluctuated to suit the character of the charging stock, specifications which must conform to the specified percentage off at 550 degrees Fahrenheit, same being the point of determining the yields from the charging stock.

Operation of Still

The gas oil is pumped through line "A" by pump "B," and then through line "A" to Williams regulator, "C," which admits the oil to the system by maintaining a liquid level within the reaction chamber, "2." The chamber, being empty, the charging stock, passes through the regulating valve in regulator and on through charging line "D" to reflux tower, "3" where the oil enters and sprays down over the tile. The oil then goes to the bottom of tower "3" and passes through runback line "E" into mixing chamber "F," then through pipe line into reaction chamber, "2." This operation continues until chamber is filled to the level of the regulator, "C," the valve then closes on the regulator, and pressure forms on line "A." The pressure former on line "A" controls the pump "B" by a governor, which operates the steam inlet valve and stops the pump.

The chamber being filled, it is necessary to fill the tubes and adjoining pipes, which function with this operation. Therefore, the oil is pumped through line "V" by opening hydraulic gate valve, on the line "V," at reaction chamber, "2." The oil goes to pump, "H," where it is forced through lines "I," being a double system, to tubes, "J," thence through tubes in furnace to outlet line, "K," back into reaction chamber, "2."

The liquid level controlled by regulator "C," falls and the valve opens, controlling the level, within the chamber. The pump, "B," against operates by reducing the pressure on line "A" forcing oil through system, same as described in charging recation chamber. When the tubes are filled, and the oil level again maintained at controller, "C," the circulating pumpe "H," is still in operation, but pump, "B," is stopped due to liquid level being reached.

Building Pressure

The system being filled as described above, the fires are started in furnace, "I" at both ends, the fuel being used, is oil, as shown in diagram. The circulating pump "H" is still operating slow, and forcing the oil through the circulating system. If the level in chamber drops, pump "B" proceeds to fill chamber, as required, but its performance is automatic as mentioned.

The temperature of 550 degrees attained the pressure begins to build, which necessitates more uniform regulation of the equipment. The required temperature and pressure attained, the circulating pump still operating through the system stated, until the tar in the bottom of chamber "2" has been reduced to the required gravity. The gravity of the tar being the required specifications, the valve on by-pass line "V" is closed, and the valve in line "V" opened regulating the flow of tar through cooler "W," thence into the meter house. Through drum "8" thence through meter to tar line "W" to storage. The gravity of the fuel oil is 15 to 16 degrees Baume.

The circulation of the gas oil through system is started by opening hydraulic valve at chamber "2" in suction line "G" and forced by pump "H" through tubes J in furnace, hence through hot oil line "K" to reaction chamber "2" thence into mixing pipe "L" wherein the hot oil coming from still comes in contact with oil in reaction chamber, which oil is under heat and pressure.

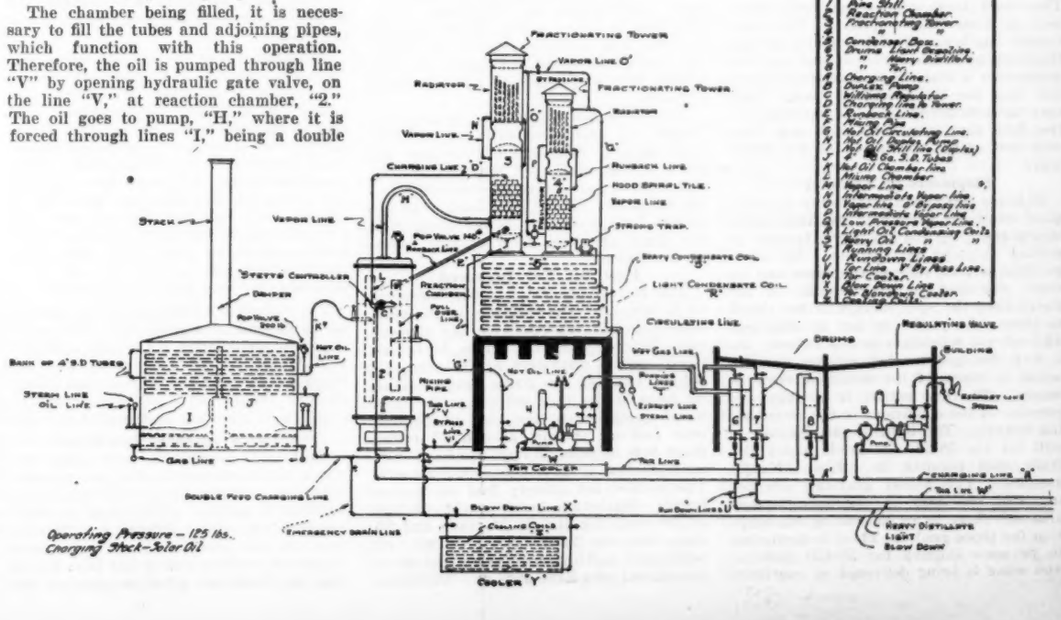
The cracking is completed within the reaction chamber, without additional heat. The oil separates into fuel oil or tar, and vapors, the fuel oil is drawn from the chamber through tar line "V" and passes to cooler "W," then to meters, then to storage. The charging pump "B" operates when the level within the reaction chamber No. 2 falls necessitating additional charging stock.

Vapor Flow

The vapors from the reaction chamber "2" pass on out through vapor line "M" to reflux tower No. 3, wherein the vapors are cooled by incoming charging stock, and the additional amount of radiation or external cooling and coming in contact with chemical spiral tile. The spiral tile knocks back any heavy ends, which may be entrained in the vapors. The vapors pass on out through the drum in tower No. 3 through vapor line into radiator tower above the vapor coming in contact with bank of tubes where fractional condensation occurs, dropping out additional heavy ends to descend through run back line into tower below. The condensate cools the vapors ascending up through the tower. The vapors on leaving reflux tower radiator pass on out through vapor line "O" to Mason, pressure regulator between towers 3 and 4. The pressure of the vapors maintained in the system described are released to 30 pounds, through this regulator the vapors passing on into fractionating tower "4."

The Mason regulator is closed, also the by-pass valves when still is building pressure, and all the volatile elements pass out through vapors line "O," to light condenser to relieve the fractionating tower "4," of this work. The design of the regulator is very adaptable to this type of equipment, making the control "auto-

(Continued on Page 130)



CHICAGO SALES RECORD; MARKET MIXED

Good Weather and Farm Improvement Aid. Smackover Has Psychological Effect on Market. Kerosene Uncertain. Gas Oil Holding But Fuel Oil Not Improved. Lubs Quiet and Tank Wagon Unchanged

By J. B. Waldo

CHICAGO, April 25.—Three of the larger distributing organizations outside of the Standard Oil Co. of Indiana, in this territory report the station business is very large, breaking all previous records. It is probable that every established distributor of petroleum products is doing as well. The condition is very different from a year ago and it is customary to attribute the increased demand for motor fuel during the first quarter of 1925 to the weather. Undoubtedly this plays a very important part but is not the only factor. The reports of increased sales by the great mail order houses indicates the country districts are more prosperous; more willing and able to spend money. In the great cities there is much less variation in the consumption of gasoline. It has seemed at times that there was little change. When the weather is bad more people use the taxis and the buses but the privately owned car is used less. But the country districts are dependent on road and weather conditions and it has been stated by authorities in the auto industry that one-half of the cars are owned in towns of less that 1,000 people which, of course, includes the farming districts. If the weather and roads are bad over a considerable part of the country the use of at least one-half the cars must be considerably abridged. When the people of these country districts are feeling comparatively prosperous they will use their cars and buy more gasoline than when they feel that each penny must be saved and this as well as the weather and road conditions must be considered.

It would seem that with sales of gasoline to the consumer progressing at the current rate the market for refined products should be strong or firm. This is hardly the case. For some reason, which is variously explained, refiners have been offering their product freely in this city and towards the close of the week good refiners with a first class product were offering to the marketers Motors gasoline at 10 cents over April and other refiners and most marketers were quoting the trade 10¼ cents. This was not the only price, for several equally prominent refiners were holding for 10½ cents and a few were asking 10¾ cents. They said they were doing some business at these higher prices. The spot market has been only fairly active during the week although rather spotty and the impression is that the business has bulked less than for the preceding week. This may be attributed in some measure to the fact that the last week end was cold and rainy over much of the territory.

Shipments on Contract

Refiners report that shipments on marginal contracts are up to contract allotments and they are having no trouble in getting shipping instructions. So much gasoline is now sold on contracts and so much delivered to the stations of refiners that the spot market is restricted to those who prefer to buy as they sell and are not subsidiary to any refiner. In a way the spot market receives the demand in excess of the minimum requirements. To that extent it is very expressive of the conditions in the distributing branch. The bulk of the demand is still for the 58-60, 437 grade which the trade still persists in calling "Navy" gasoline. The higher gravities are being sold sparingly in the spot market although there is an increasing consumption for those grades. There is beginning to be some inquiry for 58-450 gasoline and some is being delivered on contracts since the first of the month. The prices made by refiners towards the end of the week were for delivery over the remainder of April and so far there has been no contracting reported over May. One marketer stated that some days ago he offered 10½ cents for Navy over the month and was declined. His inquiry was for 150 cars. He believes from the way refiners have offered gasoline during the past few days it is as well. Many refiners are still busy on deliveries of sales made to the Carter Oil Co. and other buyers of large quantities. One question is what these refiners will find the condition of the market when they complete these deliveries. The buying by some refiners and exporters such as the Carson Petroleum Co., the Atlantic Refining Co., the Standard Oil Co. of New Jersey of the higher gravities has served to stiffen these grades but not to advance appreciably the prices here.

Why the market should be in this mixed condition is a puzzle, yet some oil men make an answer. One of the best who has recently returned from a trip to the field states it is because of the great production of crude and a fear a continuance of that production may result in a cut. He says crude is crude and that with Smackover heavy crude at its present price a properly equipped refiner can make 50 cents a barrel cracking the heavy crude. Reminded that there were only a limited number of refiners with cracking plants to whom Smackover crude was readily available he said the railroad out of Smackover was very busy and the only one in the western group of larger railroads that showed a good return during April which was proof that the crude was being moved to the Gulf or somewhere. At any rate a refiner could equip himself to crack the crude in 90 days and he believed they were doing so to some extent. He also stated that many refiners in the field had too much crude and they would either have to give up their crude connections or run more gasoline to make room in their storage, that some refiners were steadily increasing their runs and either way it foreshadowed a crude cut.

Kerosene Uncertain

Kerosene still remains rather uncertain. Some sellers report a better demand and say prices are an ⅛ to a ¼ of a cent higher; they claim to have been able to sell at these advanced prices. There are others who still state that kerosene is dull, and shows no improvement. Distillates are just about over. The demand is for a few scattering cars and this will probably continue as there are some year-round consumers of distillates both as furnace oil and for other purposes.

Gas oil is just about holding its own. Prices are unchanged and the demand very uneven. Some gas oil has been offered in the market by the tank wagon distributors, apparently an oversupply being the cause. There have been some inquiries for gas oil from utility companies and these are using their regular quota on contracts.

Fuel Oil Not Improved

The fuel oil market has not improved as to demand. The situation is due very largely to the conditions in the Smackover district. Treated oil is being offered here to marketers at 70 cents, although some of the larger dealers claim 80 cents is the very bottom price. The usual quotation to the user of Smackover fuel oil is now around 75 cents. Some bids in reply to inquiries have been made as low as 72½ cents on contracts. The market for refinery fuel oil is also lower. Marketers have bought as low as 90 cents for the 24-26 grade and 95 cents for the 26-28 gravity. Not all sellers are making these prices but there are several who have done so. The usual quotation to the consumer is 95 cents to $1.00 but these prices have been shaded for desirable business. Right now the purchasing agents are spreading a wide net and a buyer of two cars is liable to ask 15 sellers to quote him on five cars. These tactics are understood, but sellers want the business, quote gladly and follow up their quotation as long as there is a hope of getting the business, be it large or small. They are acting on the theory that there is business to be had but it must be gone after.

Lubs Quiet

Lubricating oils continue rather quiet with refiners although they report they are receiving some business for neutrals and prices are unchanged. Conditions on the Continent are rather uncertain and the export trade suffers somewhat in consequence. Inquiries for export are stated to be light. Compounders claim the jobbing trade is good, at least from some sections. It should be, with the active demand for gasoline from consumers.

Tank Wagon Holds

Tank wagon markets are generally unchanged in this territory. Sporadic cases of price cutting are being reported but the large companies are treating it as a local condition and meeting the cuts as they come. The Chicago situation is unsettled. The statement made by the Roxana Petroleum Corp., regarding its reduction of 1 cent locally last Saturday, which was promptly followed by other distributors, large and small, is that it has adopted a policy of one price to all its customers and beyond the furnishing of some equipment, which is commonly done by all the oil companies it makes no concessions in prices either direct or indirect. It states that its trade is being constantly approached by competing companies with offers of concessions including such time-worn devices as offers to buy advertising space, to furnish another pump and a man to run it as well as direct price cuts. To meet this competition there was but one thing to do according to its policy and that was to make a general price reduction and not to give this dealer one concession and another in the next block another. It is claimed that gasoline has been and still is being sold to local garages and even large consumers at 15 cents a gallon. This is explained by some companies on the ground that with a quantity price of 18 cents which was the price before last Saturday, it is customary to allow the buyer who sends his own truck for the gasoline a discount of 2 cents a gallon. Of course the buyer who has a truck to send will always take over 100 gallons at one delivery so that by allowing him 1 cent for the quantity and 2 cents for the use of the truck the rebate for the tank wagon price is 3 cents a gallon. There are some sellers who seem content so long as they are doing business and apparently care little whether there is a profit in the deals or not. There are certain manufacturers who, to land large orders figure they can afford to take the business at the cost of materials laid down plus labor. They usually fail unless they perceive their mistake in time before the dissipation of their assets has gone too far. Some local dealers claim they can make a profit selling gasoline at 15 cents when the buyer sends to their bulk station for the oil.

EAST EXPECTS TANK WAGON TO HOLD; FUEL OIL IS CHIEF UNCERTAINTY

By N. O. Fanning

NEW YORK, April 25.—Record consumption of gasoline for this time of year, increased refinery operations and record shipments of crdue and refined oil to Eastern refining and distributing centers were the features of the Eastern oil situation during the past week.

Although price cutting in the gasoline market is somewhat more prevalent than a week ago, the situation is not alarming. So far as gasoline itself is concerned, there does not seem to be any grounds for a decline in the tank wagon market. The chief center of uncertainty now is in the fuel oil market. Although consumption of heavy fuel oil has been holding up unusually well, with the result that bunker fuel oil is still quoted at the year's high, the necessity of increasing gasoline production has automatically swelled the output of fuel oil so that some concerns are believed to be slightly overstocked and likely to cut the price.

As pointed out by a prominent oil executive here, if the price of bunker oil declines, a reduction may also be expected in gasoline, as experienc has taught that weakness in the market for the heavier product is always communicated sooner or later to the other. This executive scouts the theory that fuel oil can go in one direction and gasoline in another, and therefore believes that the big production from the Smackover Field is an unfavorable factor from the viewpoint of gasoline as well as fuel oil—provided that field holds its production.

The outlook for gasoline can be summed up as dependent mainly upon the crude situation. The latter is the only unfavorable factor on the horizon at present. From the viewpoint of consumption alone, gasoline should sell much higher within a month or two than it is quoted at now.

California Gasoline Low-Grade

California gasoline is now being retailed quite extensively in the Atlantic Seaboard markets. It is estimated that 50,000,000 gallons have been brought around here since February. Several tests of this gasoline have been made at service stations and it has been found that the California gasoline averages between 57 and 58 gravity, while that received here from Mid-Continent crude averages between 60 and 61. The writer has been told by several motorists that the lower grade gasoline gives considerably less mileage.

The use of California gasoline was, of course, necessitated by the fact that Atlantic Coast refiners early in the year found themselves short of gasoline due to unexpectedly heavy consumption. Now, however, Eastern refiners are turning more to high grade Mid-Continent crude, coming from Oklahoma, north and central Texas for the most part. An improvement in the gravity of gasoline sold here is therefore expected.

The matter of quality in gasoline is an important one from the viewpoint not only of the motorist, but that of the oil companies themselves. With an increasingly discriminating clientel, the gasoline marketers are finding that quality is becoming more generally recognized. This is looked upon as forecasting the payment of higher premiums on high grade oils, such as that coming from the Mid-Continent. The running of heavy crude increases the supply of gasoline, but this gasoline cannot be brought up to the standard of the motorists without special treatment.

Gas Oil

Gas oil continues to be quoted at 6¾ cents per gallon in bulk at Bayonne. This is for 28 plus gravity. The demand has been unusually good due to increased consumption of gas in the eastern cities, calling for larger quantities on new contracts than were purchased last year by the same gas companies. The first few months of the year comprises the period when most of the new contracts for six months supply are closed. June and December are the months in which the contracts usually go into effect.

Diesel Oil Reduced

Diesel oil is now quoted at $2.30 per barrel (lighterage 6½ cents per barrel extra.) This is a reduction of 5 cents in the last week. The new price compares with the year's high of $2.70.

Bunker fuel oil continues to be quoted

at $1.80 per barrel, despite reductions having been made in other sections of the country. The firmness in prices here is attributed wholly to the unusually heavy demand.

Lubricants Firm

The lubricating oil market is somewhat firmer, due to heavy automobile consumption. The industrial demand is below par so far as the domestic situation is concerned. The industrial demand for paraffin wax is also slow.

Cylinder stocks have been unusually weak, due largely to the reductions in Pennsylvania crude, but red oils have stood up unusually well. The export demand for lubricants is the chief bright spot in the lubricating oil situation.

Export Market Improves

The oil export market at this port has taken on a new lease of life. There has been a revival in the bulk export trade, and a brisk demand for lubricants in barrels and for cased gasoline.

Kerosene exports in bulk reported last week aggregated 5,523,915 gallons, all to England. One bulk cargo to England also included 209,607 gallons of lubricating oil.

Shipments of gasoline in cases held up unusually well, aggregating 1,254,250 gallons, against 1,887,800 gallons the preceding week.

Asphalt and Coke

One feature of the oil export market was the exportation by the Anglo-American Oil Co. of its second large bulk order of petroleum asphalt, in as many months. The "Lackawanna" sailed with 1,443,216 pounds. In March a bulk shipment of 1,683,618 pounds was made. Both cargoes went to England.

Shipments of petroleum coke have also been quite large. A week ago shipment of 1,032 tons was reported to southern France. This week a bulk shipment of 2,240,560 pounds was made to Germany.

Principal Exports

The following table shows principal exports of petroleum and petroleum products from New York reported during the past three weeks, (figures in gallons unless otherwise stated in parentheses):

	Week-ended		
	Apr. 22	Apr. 15	Apr. 8
Gasoline—			
Cases	1,254,250	1,887,800	887,410
Kerosene—			
Bulk	5,523,915	.....	.....
Cases	649,000	1,745,430	547,360
Lubricating oil—			
Bulk	209,607	.....	.....
Barrels	1,488,250	389,100	978,500
Cases	98,260	256,100	117,930
Lubricating grease—			
Barrels (Bbls.)	.....	.....	508
Cases (Cases)	1,330	.....	.....
Paraffin wax—			
Bags (lbs.)	1,689,820	1,303,940	11,000
Barrels (Bbls.)	712	.....	1,580
Petroleum asphalt—			
Barrels (Bbls.)	.....	869	.....
Bulk (lbs.)	1,443,216	.....	.....
Petroleum coke:			
Bags (tons)	.....	1,032	.....
Bulk (lbs.)	2,240,560	.....	.....
Crude oil—			
Barrels (Bbls.)	2,977	1,727	3,981

Exports of paraffin wax continued at a good rate, amounting to 1,689,820 pounds of unrefined and 712 bbls. of refined.

Tanker Charters

Tanker charters included the following:

Tanker Ohpelia (Fr.), May loading, gasoline, United States Gulf to Greece, at 35 sh.

Tanker Luminn (Br.), May loading 7,500 tons of kerosene and gasoline, California to United Kingdom-Continent, at 30 sh.

Tanker Solana (Am.), April loading, Tampico to north Hatteras, at 28c. option United States Gulf at 25c.

Closing of the latter tanker indicates a slight firming up in rates, previous fixtures from Mexico being as low as 24 cents, and from the Gulf as low as 22 cents per barrel.

Oil Receipts Large

Estimated daily average receipts of crude and refined oil at Atlantic Coast ports during the week ended April 22 were 525,000 bbls., against 643,000 bbls. the week ended April 15. The feature consisted of receipts of 360,000 bbls. from the Gulf Coast, against 412,000 bbls. the week before. Average receipts from the Gulf Coast so far in April are 362,000 bbls. daily, against 273,000 bbls. in the whole month of March. In April, 1924, receipts from the Gulf Coast averaged only 262,000 bbls. daily.

The following table gives a comparison of daily average receipts for the week ended April 22, 1925, with the corresponding week last year:

	Apr. 22 1925	Apr. 25 1924	Change
Gulf Coast	360,000	262,000	Inc. 98,000
Pacific Coast	48,000	140,000	Dec. 92,000
Imports	117,000	101,000	Inc. 16,000
Total	525,000	503,000	Inc. 22,000

One fact which the actual figures do not show is that the percentage of finished gasoline being received from all sources by water is greater than a year ago. That is due to the urgent need for gasoline in the Atlantic Coast territory.

The following table shows daily average receipts of crude and refined oil by water at Atlantic ports from the Gulf and Pacific Coasts of the United States, and imports, for the last three weeks; also monthly record for the last 12 months (figures in barrels):

	Week Ended		
	Apr. 22	Apr. 15	Apr. 8
Gulf Coast	360,000	412,000	315,000
Pacific Coast	48,000	128,000	49,000
Imports	117,000	103,000	116,000
Total	525,000	643,000	480,000

Daily Averages by Months	Gulf	Pacific	Impts.	Total
Mar., 1925	273,000	82,000	135,000	490,000
Feb.	262,000	51,000	147,000	460,000
Jan.	311,000	77,000	133,000	521,000
Dec., 1924.	306,000	83,000	85,000	474,000
Nov.	246,000	80,000	150,000	476,000
Oct.	246,000	120,000	88,000	454,000
Sept.	270,000	104,000	101,000	475,000
Aug.	310,000	127,000	84,000	521,000
July	318,000	85,000	114,000	517,000
June	302,000	133,000	136,000	571,000
May	276,000	122,000	144,090	542,000
April	262,000	143,000	123,000	528,000

The foregoing estimates are based on the carrying capacity of incoming oil-laden tankers.

LUBRICATING VALUE OF GASOLINE PLANT OILS

(Continued from Page 26)

way was made considering the difficulties under which they labored. Today, it is not by any means conceded that all oils of stated specifications will furnish the same lubricating service. It is becoming more and more apparent that a uniform and available source of supply of a crude from which good lubricating oil can be made, experienced and proven methods of refining, making possible uniformity at all times, are the most important factors to consider when the maximum in lubrication is desired.

Power equipment in the form of current models of stationary gas engines represents an investment of sufficient magnitude to warrant serious consideration from the standpoint of conservation. The lubrication of these engines, more than any other one thing, determines whether they will make an adequate return for the money invested. Quite often price and reciprocity are the determining factors in the purchase of oil. In many cases the purchaser does not buy lubrication—he buys just oil by specifications and price. It is possible that too much importance has been accorded to price or first cost of oil; while the price paid has some bearing on operating costs, there are other and much more serious items of expense inescapably attending the use of poor oils, or oils of wrong type or body.

Question of Price

In discussions of oils, in connection with gas engine lubrication the question of price almost invariably enters. You also hear much of consumption as a factor of importance. Loss by evaporation also comes in for its share. Could not all these be disregarded and an earnest effort made to find the oil that would lubricate for a long and satisfactory period of service without the expensive tear down and overhaul jobs that are often found necessary at the frequent periods?

The range of price difference from lowest to highest on any one type of oil is only a few cents per gallon, sometimes only a fraction of a cent. Oils do not break down and wear out from the lubricating service they perform—mainly their lubricating value is destroyed by contamination from unburnt portions of fuel. Evaporation loss in determining lubrication costs is neglible. Giving all these, however, the fullest consideration they are entitled to, do they outweigh overhaul costs? It seems that the most important features to be considered in determining whether proper lubrication is being secured is the efficiency of the engine in delivering maximum service during a long, continuous period and most especially the condition of the engine at the close of this period. Oil is being continually spread on the cylinder wall by the movement of the pistons. There is only one escape for this steady spread of oil. It must and does burn. It must then be scavenged through the combustion chamber to the exhaust to make way for fresh oil. It must burn cleanly and evenly and deposits must be of such nature that they will exhaust without leaving substances that will cause hard carbon on rings and in combustion chamber. Should not this be considered economical type of oil?

Lubricating Units

At some time in the future—let us hope it will be soon—it may be possible to offer oil on the basis of the lubricating units each gallon, or any other selected measure, may contain. About five years ago at a joint meeting of the United States Bureau of Standards and the American Society of Automotive Engineers, at which I believe the refiners were represented, the refiners wre called upon to make an effort to arrive at some method which would enable them to designate more definitely the lubricating value of their oils, and which would more distinctly define and classify them from a lubricating service standpoint. This would be independent of, but relative to the present practice of supplying the specifications of gravity, flash, fire, viscosity, cold test, carbon content, emulsibility, etc. This will, no doubt be accomplished by some one of the many engineering forces now working toward that end. Much more is being learned of the bearing the fixed, inherent proprties of oil has on the lubricating service possible for each type or kind of oil to supply. The srvice possible for oils to furnish may be determined by the measuring and defining of adhesiveness, cohesiveness, capillarity, fluidity, penetration and other properties not now generally considered in addition to the specifications now given to identify oils. This result surely can be expected. It certainly is to be hoped for and its accomplishment will be of much value as well as a decided advancement.

Mention should be made of results obtained by injection of distilled water in cylinders of two cycle gas engines, if only to introduce the subject for discussion. Very favorable results have been reported by some users. It seems that an element of danger might be present if this practice was universal, and care was not exercised in ascertaining the susceptibility to emulsification of the oil used.

SMACKOVER HEAVY NEAR THE 300,000-BBL. MARK

(Continued from Page 23)

drilling in Section 11; 1 well drilling in Section 15; 5 derricks and 8 wells drilling in Section 16; 1 derricks and 8 wells drilling in Section 17, in the southern half of which the Humphreys interests drilled a 3,400-foot dry hole some years ago, but which proved productive recently in the north half; 1 derrick up in Section 19; 1 well drilling in Section 22, and 1 derrick up on Section 33.

In Township 32-15-15, there were 2 derricks and 3 wells drilling; 2 derricks and 4 wells drilling in Section 33, and 5 derricks up and 5 wells drilling in Section 34.

There were 48 new permits issued this week by the State Conservation Commission. The low price of crude has had no effect on the ardor of the operators and they will go on with their original program, which was to drill up the acreage just as rapidly as possible in order to get all the oil from their leases before their neighbors have drained the sand.

Operating Companies

The active companies in the deep sand development and the number of their derricks and drilling wells follow: Gulf Refining Co. of Louisiana, 20; Unity Petroleum Co. 6, Crawford & Sebastian 2, Holloway and others 1, Standard Oil Co. of Louisiana 17, Hickman and others 3, Crusader Pipe Line Co. 6, The Texas Co. 11, Lion Oil & Refining Co. 18, Kenneberry and others 1, Howell and others 1, Houston Oil Co. 5, Sun Oil Co. 7, Amerada Petroleum Corp. 9, Humble Oil & Refining Co. 14, Leon and others 4, George & Jones 3, Shreveport Oil Corp. 4, Roxana Petroleum Corp. 25, Wingfield and others 4, Penguin Oil Co. 3, Woodley Petroleum Co. 3, Patterson Morefield 1, Sim Umsted 1, Marine Oil Co. 6, Nye Wilson 1, J. H. Alphin 1, Clark & Melat 2, Natural Gas & Petroleum Co. 17, R. J. McMurry 1, Carrigan and others 1, White and others 1, Thurman and others 1, Sure Shot Oil Corp. 4, Invader Oil Corp. 2, Imperial Oil & Gas Products Co. 6, Federal Oil Corp. 9, Herring and others 1, Arkansas Fuel Oil Co. 6, A. H. Ramage 7, Arkado Oil Co. 1, Ray Drilling Co. 1, A. B. Jones 1, Rowe Daniels 1, Page Oil Corp. 2, Magnolia Petroleum Co. 2, Murdock and others 3, Coates & Sowell 2, Pure Oil Co. 6, McCorkle and others 1, Broderick & Calvert 1, United Central Oil Corp 2, J. W. Clark 4, Eason and others 4, Sunny Jim Oil Co. 4, Keen & Wolf 3, Ohio Oil Co. 8, O. G. Murphy 3, Sam Cook 1, Stewart and others 2, Winger and others 1, Mazda Oil Corp. 2, Bailey Trible 1, Phillips Petroleum Co. 1, Hollifield McFarland 1, Simms Oil Co. 7, E. M. Jones and others 4, Staves and others 1, Rogers and others 2, Dail and others 1, Barnsdall & Foster 1, Tidal Osage Oil Co. 1, Marr and others 1, Belmont and others 1, Webb Oil Co. 1, Texas & Pacific Coal & Oil Co. 1, C. F. Colcord 1, Thurman and others 1, Sinclair Oil & Gas Co. 1, Dashko and others 1, Sure Oil Corp. 1, Owenwood Oil Corp. 1, D. N. Johnson 1.

Evaporation Loss

The question of evaporation loss of Smackover heavy gravity crude in open storage has come up. Inquiry has brought out the fact that there will be a 7½ per cent loss when the crude is placed in earthen storage. This loss is noticed immediately after the oil has run into the pits, and it is due to absorption by the sandy soil from which the pits are made. After the first loss the evaporation loss will be approximately three fourths of 1 per cent per month up to the first year and after that perhaps not over one fourth of 1 per cent.

Treating the Oil

Much of the Smackover deep sand heavy gravity oil has to be treated and it will cost approximately 5 cents per barrel to do this, regardless of whether it comes from earthen storage or direct from wells. The fact that the oil goes into earthen pits does not necessarily mean that it must be treated. If the oil run to storage is clean pipe line oil when produced it will remain so. In fact it is possible to put bad oil in an earthen pit and find within six months that the sun has treated out, in some instances, as high as 60 per cent, leaving only 40 per cent to be treated artificially. More than half the oil in the field contains sediment in excess of 10 per cent, while in some instances wells are producing oil containing from 50 to 70 per cent water and sediment.

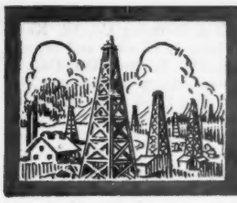
Operators in the Smackover district find it impossible to have thir oil in open storage insured. So far as can be learned insurance companies will not under any circumstances assume the risk.

OIL SECURITIES WERE IRREGULAR BUT DULL

(Continued from Page 106)

with $16,602,561.94 for 1923, and the net to stock $14,845,773.74, compared to $13,468,760.01 for 1923. This was equivalent after the deduction of preferred dividends to $21.14 a share earned on the average amount of common stock outstanding during the year. In 1923, $18.28 was earned on the common stock then outstanding and $14.88 the year before.

The company and its subsidiaries on December 31, 1924, showed current assets of $57,408,803.34 and current liabilities of $28,260,806.02. The excess of current assets over current liabilities was $29,147,937.32, of which $13,697,725.85 was in cash.



REFINERY AND CRUDE PRICES

Quotations on Principal Refined Products and Crude Petroleum Markets in All the American Oil Fields

GASOLINE AND NAPHTHA

OKLAHOMA (Group 3)—	April 28		April 21		April 14	
50-52 450 end point (Naphtha)	.09¾	.10	.10	.10¼	.09¼	.09½
56-58 450 end point	.09¾	.10	.10	.10¼	.09¼	.09½
58-60 437 end point (U. S. Motor)	.10¼	.10½	.10½	.10¾	.09¾	.10
60-62 400 end point	.11½	.11¾	.11½	.11¾	.11	.11¼
64-66 375 end point	.12¾	.13	.12¾	.13	.12	.12¼
68-70 350 end point	.13	.13¼	.13	.13¼	.12¾	.13
KANSAS—						
58-60 437 end point (U. S. Motor)	.10¼	.10½	.10½	.10¾	.10	.10¼
NORTH TEXAS—						
48-52 450 end point (Naphtha)	.09¾	.10	.10	.10¼	.09¼	.09½
50-52 440 end point (Naphtha)	.09¾	.10	.10	.10¼	.09¼	.09½
56-58 450 end point	.10	.10¼	.10	.10¼	.09¼	.09½
58-60 437 end point (U. S. Motor)	.10¼	.10½	.10¼	.10½	.09¾	.10
60-62 400 end point	.11½	.11¾	.11½	.11¾	.11	.11¼
64-66 390 end point	.12½	.12¾	.12½	.12¾	.11¾	.12
64-66 375 end point	.12¾	.13	.12¾	.13	.12	.12¼
68-70 360 end point	.13	.13¼	.13	.13¼	.12¾	.13
NORTH LOUISIANA—						
56-58 450 end point	.10¼	.10½	.10¼	.10½	.10	.10¼
58-60 437 end point (U. S. Motor)	.10¾	.11	.10½	.10¾	.10¼	.10½
60-62 400 end point	.11½	.12	.11½	.12	.11½	.12
64-66 390 end point	.12½	.12¾	.12¾	.13	.12¾	.13
64-66 375 end point	.12¾	.13	.13¼	.13½	.13¼	.13½
ARKANSAS—						
58-60 450 end point	.10½	.10¾	.10¾	.11	.10	.10¼
58-60 437 end point (U. S. Motor)	.10¾	.11	.11	.11¼	.10¼	.10½
64-66 375 end point	.13	.13¼	.13	.13¼	.12¾	.13
ROCKY MOUNTAIN STATES—						
*58-60 437 end point (U. S. Motor)	.12¾	.13	.12¾	.13	.12¾	.13
PENNSYLVANIA—						
52 Naphtha	.12¾		.12¾		.12¾	
54 Naphtha	.12¾		.12¾		.12¾	
56 Gasoline	.13	.13¼	.13		.13	
58 Gasoline	.13	.13¼	.13		.13¼	
60 Gasoline	.14	.14¼	.13¾		.14	
62 Gasoline	.14½	.14¾	.14½		.14¾	
64 Gasoline	.15	.15¼	.15		.15	
66 Gasoline	.15	.15¼	.16		.16	
68-70 Gasoline	.17¼	.17½	.18		.18	
CALIFORNIA—						
54-56 437 end point (U. S. Motor) domestic	.11	.11½	.11	.11½	.11	.11½
CHICAGO DIST. (Based on Group 3)—						
50-52 450 end point (Naphtha)	.09½	.09¾	.09½	.09¾	.09½	.09¾
56-58 450 end point	.10	.10¼	.10	.10¼	.09½	.09¾
58-60 437 end point (U. S. Motor)	.10¼	.10½	.10½	.10¾	.10	
60-62 400 end point	.11¾	.12	.11½	.11¾	.11¼	.11½
64-66 375 end point	.12¾	.13	.12¼	.12½	.12½	.12½
68-70 360 end point	.13¼	.13½	.13	.13¼	.13	.13¼

NATURAL GASOLINE

OKLAHOMA (Group 3)—	April 28		April 21		April 14	
Grade Double A, 80-87.9, 375 e.p., rec. 90%	.09¾	.10	.10		.09	.09¼
Grade A, 72-79.9, 375 end point, rec. 90%	.10		.10		.09	.09¼
Grade Double B, 84-92, 375 e.p., rec. 95%	.09¾		.09	.09¼	.08	
Grade B, 76-83.9, 375 end point, rec. 85%	.09¾		.09	.09¼	.08	
Grade C, 80-90, 375 end point, rec. 78%	.09¼		.08¼	.08½	.07	.07¼
NORTH TEXAS—						
Grade Double A, 80-87.9, 375 e.p., rec. 90%	.09¾	.10	.10		.09	.09¼
Grade A, 72-79.9, 375 end point, rec. 90%	.10		.10		.09	.09¼
Grade Double B, 84-92, 375 e.p., rec. 85%	.09¾		.09		.08	
Grade B, 76-83.9, 375 end point, rec. 85%	.09¾		.09		.08	
Grade C, 80-90, 375 end point, rec. 78%	.09¼		.08¼	.08½	.07	.07¼
NORTH LOUISIANA—						
Grade A, 72-79.9, 375 end point, rec. 90%	.10¾		.09¾	.10	.09½	
Grade B, 76-83.9, 375 end point, rec. 85%	.10		.09¼	.09½	.08½	
Grade C, 80-90, 375 end point, rec. 78%	.09½		.08½		.07¾	
CALIFORNIA—						
68-80 absorption, 360-390 end point	.13½	.14	.13½	.14	.13	.13½
78-84 compression, 350 end point	.13½		.13		.13½	
CHICAGO DIST. (Based on Group 3)—						
Grade Double A, 80-87.9, 375 e.p., rec. 90%	.10	.10¼	.09	.09¼	.09	.09¼
Grade A, 72-79.9, 375 end point, rec. 90%	.10	.10¼	.09	.09¼	.09	.09¼
Grade Double B, 84-92, 375 e.p., rec. 85%	.09	.09¼	.08	.08¼	.08	.08¼
Grade B, 76-83.9, 375 end point, rec. 85%	.09	.09¼	.08	.08¼	.08	.08¼
Grade C, 80-90, 375 end point, rec. 78%	.08¼	.08½	.07¼	.07½	.07	.07½

MOTOR NATURAL GASOLINE (BLENDS)

OKLAHOMA (Group 3)—	April 28		April 21		April 14	
60-62 450 end point	.10	.10¼	.10	.10¼	.09¼	.09½
64-66 437 end point	.10	.10¼	.10	.10¼	.09¼	.09½
68-70 430-435 end point	.10	.10¼	.10	.10¼	.09¼	.09½
NORTH TEXAS—						
58-62 440 end point	.10	.10¼	.10	.10¼	.09¼	.09½
58-60 450 end point	.10	.10¼	.10	.10¼	.09¼	.09½
PENNSYLVANIA—						
*60-62	.13		.13		.13	
*64-66	.13		.13		.13	
*66-68	.13		.13		.13	
*68-70	.13		.13		.13	
CHICAGO DIST. (Based on Group 3)—						
60-62 450 end point	.09¾	.10	.09	.09¼	.09¾	.10
64-66 450 end point	.10	.10¼	.09	.09¼	.09¾	.10
68-70 437 end point	.10	.10¼	.09¼	.09½	.10	.10¼

*At Sistersville, W. Va.

BURNING OIL

KANSAS—	April 28		April 21		April 14	
41-43 water white Kerosene	.04¼	.04½	.04¼	.04½	.04¼	.04½
OKLAHOMA (Group 3)—						
41-43 water white Kerosene	.04	.04¼	.04	.04¼	.04	.04¼
42-44 water white Kerosene	.04¼	.04½	.04¼	.04½	.04¼	.04½
40-41 prime white Kerosene	.03¾	.04	.03¾	.04	.03¾	.04
NORTH LOUISIANA—						
41-43 prime white Kerosene	.04¾		.04½	.04¾	.04¾	.05
42-44 water white Kerosene	.05		.04¾	.05	.05	.05¼
ROCKY MOUNTAIN STATES—						
*40-42 water white Kerosene	.07	.07¼	.07	.07¼	.07	.07¼
NORTH TEXAS—						
41-43 water white Kerosene	.04	.04⅛	.04	.04⅛	.04	.04⅛
40-42 prime white Kerosene	.03¾		.03¾		.03¾	
41-43 prime white Kerosene	.04	.04⅛	.04	.04⅛	.04	.04⅛
42-44 water white Kerosene	.04¼	.04½	.04¼	.04½	.04¼	.04½
ARKANSAS—						
41-43 water white Kerosene	.04½	.04¾	.04½	.04¾	.04½	.04¾
42-44 water white Kerosene	.04¾	.05	.04¾	.05	.04¾	.05
PENNSYLVANIA—						
43 Kerosene prime white	.06⅝		.06⅝		.06⅝	
45 Kerosene water white	.06½		.06½		.06¾	
46 Kerosene water white	.07¼		.07¼		.07¼	
47 Kerosene water white	.07¾		.07¾		.07¾	
34 Neutral	.07½		.07½		.07½	
34 Sundebloomed Neutral	.08	.08¼	.08½		.08½	
36 Miners' Neutral	.07½		.07½		.07½	
300 Mineral Seal	.07½		.07½		.07½	
CALIFORNIA—						
40-42 water white (high burning test)	.07½	.08	.07½	.08	.07½	.08
Engine distillate, 43-45 445 end point	.08½	.09	.08½	.09	.08½	.09
Engine distillate, 42-44 480 end point	.07¾	.08	.07¾	.08	.07¾	.08
CHICAGO DIST. (Based on Group 3)—						
41-43 water white Kerosene	.04⅛	.04¼	.04⅛	.04¼	.04⅛	.04¼
42-44 water white Kerosene	.04¼	.04½	.04¼	.04½	.04⅜	.04½

*Colorado points.

FUEL OILS

KANSAS—	April 28		April 21		April 14	
24-26 Fuel Oil	1.02½	1.05	1.10	1.15	1.15	1.20
32-36 Gas Oil	.03¼	.03½	.03¼	.03½	.03¼	.03½
38-40 Distillate	.03½	.03⅝	.03½	.03⅝	.03½	.03⅝
OKLAHOMA (Group 3)—						
Below 22 Fuel Oil (sellers' cars)	.90		.95		1.00	1.05
22-26 Fuel Oil (sellers' cars)	.90	.95	1.02½	1.05	1.05	1.07½
24-26 Fuel Oil (buyers' cars)	.95	1.00	1.02½	1.05	1.05	1.07½
24-26 Fuel Oil (sellers' cars)	.95	1.00	1.02½	1.05	1.05	1.10
28-30 Fuel Oil (sellers' cars)	1.05	1.07½	1.07½	1.10	1.15	1.20
32-36 Gas Oil	.02¾	.02⅞	.02⅞	.03	.03	.03⅛
36-38 Distillate	.03	.03⅛	.03	.03⅛	.03⅛	.03⅛
38-40 Straw distillate	.03⅛	.03¼	.03⅛	.03¼	.03¼	.03⅜
NORTH TEXAS—						
24-26 Fuel Oil (sellers' cars)	1.02½	1.05	1.10	1.15	1.15	1.20
26-30 Fuel Oil	1.07½		1.20		1.25	
32-36 Gas Oil	.02¾	.02⅞	.02⅞	.03	.03	.03⅛
36-38 Distillate	.03⅛	.03¼	.03⅛	.03¼	.03¼	.03⅜
38-40 Straw distillate	.03¼	.03⅜	.03¼	.03⅜	.03⅜	.03½
NORTH LOUISIANA—						
18-20 Fuel Oil	.90	1.00	1.00	1.05	1.10	1.15
32-36 Gas Oil	.03¼	.03½	.03¼	.03½	.03½	.03⅝
ARKANSAS—						
38-40 Distillate	.03¼	.03⅜	.03¼	.03½	.03¾	.03⅞
32-36 Gas Oil	.03¼	.03½	.03¼	.03½	.03¼	.03½
22-26 Refinery Fuel Oil	.90	.95	1.00	1.05	1.05	1.10
GULF COAST (South Texas)—						
Gas Oil	.04¾	.05	.04¾	.05	.04¾	.05
Fuel Oil	1.55	1.60	1.60	1.65	1.65	1.70
PENNSYLVANIA—						
30-34 Fuel Oil	.04¼		.04¼		.04¼	
36-40 Fuel Oil	.05½		.05½		.05½	
CALIFORNIA—						
33-36 Distillate	.04¾	.05	.04¾	.05	.04¾	.05
27-33 Distillate	.04	.04½	.04	.04½	.04	.04½
15-20 Fuel Oil (at tide water)	1.60	1.65	1.60	1.65	1.60	1.65
CHICAGO DIST. (Based on Group 3)—						
24-26 Fuel Oil (sellers' cars, Group 3)	.95	1.00	1.00	1.05	1.07½	1.12½
18-22 (El Dorado)	.92½	.97½	.97	1.02	1.05	1.10
18-20 (Smackover)	.75	.80	.95	1.00	1.05	1.10
32-36 Gas Oil	.03	.03⅛	.03⅛	.03¼	.03¼	.03¾
36-38 Distillate	.03⅛	.03¼	.03¼		.03⅜	
38-40 Straw distillate	.03¼	.03¾	.03½		.03½	

LUBRICATING OILS AND WAX

OKLAHOMA (Group 3)—						
Neutrals:	April 28		April 21		April 14	
70-80 vis., 2½ color, 20-25 cold test	.06	.06¼	.07	.07½	.07	.07½
100 vis., 2 color, 20-25 cold test	.06¼	.06½	.08½	.09	.08½	.09
100 vis., 3 color, 20-25 cold test	.05¾	.06	.08	.08½	.08	.08½
150 vis., 3 color, 20-25 cold test	.10½	.11	.10½	.11	.10½	.11
150 vis., 4 color, 20-25 cold test	.10½	.10¾	.10½	.10½	.10½	.10¾
180 vis., 4 color, 23-28 cold test	.10¾	.11¼	.10¾	.11½	.10¾	.11¾
180 vis., 3 color, 23-28 cold test	.11	.11½	.11	.11½	.11	.11½
200 vis., 3 color, 23-28 cold test	.12	.12½	.12	.12½	.12	.12½
200 vis., 4 color, 23-28 cold test	.11¾	.12¼	.11¾	.12¼	.11¾	.12¼
220 vis., 3 color, 25-30 cold test	.14½	.15	.14½	.15	.14½	.15
220 vis., 4 color, 25-30 cold test	.14	.14½	.14	.14½	.14	.14½
240 vis., 3 color, 25-30 cold test	.16	.16½	.16	.16½	.16	.16½
240 vis., 4 color, 25-30 cold test	.15½	.16	.15½	.16	.15½	.16
280 vis., 3 color, 25-30 cold test	.17½	.18	.17½	.18	.17½	.18
280 vis., 4 color, 25-30 cold test	.16½	.17	.16½	.17	.16½	.17
Red Neutrals:						
180 vis., 5 color, 23-28 cold test	.10½	.11	.10½	.11	.10½	.11
180 vis., 6 color, 23-28 cold test	.10	.10½	.10	.10½	.10	.10½
200 vis., 5 color, 23-28 cold test	.11½	.12	.11½	.12	.11½	.12
200 vis., 6 color, 23-28 cold test	.11	.11½	.11	.11½	.11	.11½
220 vis., 5 color, 25-30 cold test	.13½	.14	.13½	.14	.13½	.14
220 vis., 6 color, 25-30 cold test	.13	.13½	.13	.13½	.13	.13½
240 vis., 5 color, 25-30 cold test	.15	.15½	.15	.15½	.15	.15½
240 vis., 6 color, 25-30 cold test	.14½	.15	.14½	.15	.14½	.15
280 vis., 5 color, 25-30 cold test	.15½	.16	.15½	.16	.15½	.16

REFINERY AND CRUDE PRICES

Quotations on Principal Refined Products and Crude Petroleum Markets in All the American Oil Fields

	April 28		April 21		April 14	
Cylinder Stocks—						
180-200 vis., S. R. green, 40-45 cold test	.09½	.10	.09½	.10	.09½	.10
190-200 vis., S. R. green, 40-45 cold test	.08½	.09	.08½	.09	.08½	.09
17-190 dark green, 40-45 cold test	.07½		.07½		.07½	
600, E filtered	.21¾		.21¾		.21¾	
190-200 vis. @ 210 "D" Bright Stock	.36		.36		.36	
200-210 vis. @ 210 "E" Bright Stock	.31		.31		.31	
150 vis. @ 210 "D" Bright Stock	.32		.32		.32	
150 vis. @ 210 "E" Bright Stock	.28		.28		.28	
Waxes:						
124-126 White Crude Scale Wax	.04½	.04¾	.04½	.04¾	.04½	.04¾
PENNSYLVANIA—						
150, 3 color	.19	.19¼	.19½		.20	
180, 3 color	.20¾		.21¾		.21¾	
200, 3 color	.22¾	.23	.23¾		.23¾	
220, 3 color	.25		.25½		.25½	
600, steam refined	.16½	.16¾	.18		.18¾	
635, steam refined	.22½		.22½		.22½	
650, steam refined	.24½	.24¾	.25		.25½	
600, Pennsylvania flash	.29	.29¼	.29		.33	
630, Pennsylvania flash	.37	.37½	.38		.38	
*550, E filtered	.22¼	.22½	.23		.23	
*600, E filtered	.24	.24¼	.25½		.25½	
600, E filtered	.23	.23¼	.23		.23¾	
600, D filtered	.29	.29¼	.29		.30½	
550, E filtered	.22	.22¼	.22		.22½	
550, D filtered	.24½	.25	.25		.25½	
Pennsylvania Bright Stock	.37	.37¼	.37½		.37½	
122-124 White Crude Scale Wax	.04⅞		.04⅞		.04⅞	
†124-126 White Crude Scale Wax	.05		.05		.05	
GULF COAST (South Texas)—						
Zero Black	.06	.07	.06	.07	.06	.07
No. 2 color, 100 vis., pale oil	.09½	.10½	.09½	.10½	.09½	.10½
No. 2 color, 150 vis., pale oil	.11	.12	.11	.12	.11	.12
No. 3 color, 200 vis., pale oil	.14	.15	.14	.15	.14	.15
No. 3 color, 300 vis., pale oil	.16	.17	.16	.17	.16	.17
No. 3½ color, 500 vis., pale oil	.18	.19	.18	.19	.18	.19
No. 3½ color, 750 vis., pale oil	.23½	.24½	.23½	.24½	.23½	.24½
No. 4½ color, 1200 vis., pale oil	.26½	.27½	.26½	.27½	.26½	.27½
No. 4 color, 2000 vis., pale oil	.30	.31	.30	.31	.30	.31
No. 2 plus color, 150 vis., pale filtered	.21½		.21½		.21½	
No. 2 plus color, 200 vis., pale filtered	.23		.23		.23	
No. 2½ minus color, 300 vis., pale filtered	.26½		.26½		.26½	
No. 2½ color, 500 vis., pale filtered	.30½		.30½		.30½	
No. 2½ color, 800 vis., filtered	.40½		.40½		.40½	
No. 5 to 6 color, 200 vis., red oil	.12½	.13½	.12½	.13½	.12½	.13½
No. 5 to 6 color, 300 vis., red oil	.14½	.15½	.14½	.15½	.14½	.15½
No. 5 to 6 color, 500 vis., red oil	.16½	.17½	.16½	.17½	.16½	.17½
No. 5 to 6 color, 750 vis., red oil	.21½	.22½	.21½	.22½	.21½	.22½
CALIFORNIA—						
130 pale, 2½-3 color	.12	.12½	.12	.12½	.12	.12½
200 vis., 2½-3 color	.15½	.16	.15½	.16	.15½	.16
300 vis., 3 -3½ color	.17	.17½	.17	.17½	.17	.17½
350 vis., 3½-4 color	.18½	.19	.18	.19	.18	.19
400 vis., 3½-4 color	.20	.20½	.20	.20½	.20	.20½
Red Neutrals:						
200 vis., 4½-5 color	.14	.14½	.14	.14½	.14	.14½
300 vis., 5 -6 color	.15	.15½	.15	.15½	.15	.15½
400 vis., 5 -6 color	.17	.17½	.17	.17½	.17	.17½
500 vis., 4½-5 color	.20	.21	.20	.21	.20	.21
500 vis., 6 -6½ color	.18	.19	.18	.19	.18	.19
600 vis., 6½ plus color	.19	.19½	.19	.19½	.19	.19½
130-132 a.m.p., per lb.	.06¾		.06¾		.06¾	
135-137 a.m.p., per lb.	.07½		.07½		.07½	

*At Warren, Pa. † At New York City.

†All lub prices in barrels.

Note: Bright stocks are not manufactured commercially on the Pacific Coast.

NEW YORK DOMESTIC MARKET

Bayonne Refinery Prices:	April 28	April 21	April 14
U. S. Motor Gasoline, 58-60 437	.15	.15	.14
*Bunker Oil, 14-16 Be.	1.80	1.80	1.80
Diesel Oil, 28-30 Be.	2.30	2.35	2.35
Furnace Oil, New York City	.10	.10	.10
Gas Oil, 32-36 Be.	.06¾	.06¾	.06¾
41-43 Kerosene prime white	.07	.06	.06

*Lighterage, 6.5c a barrel extra.

NEW YORK EXPORT PRICES

Motor Gasoline:	April 28	April 21	April 14
56-60 Be. gravity, in cases	.29.15	.29.15	.29.15
U. S. Navy, in bulk	.15	.15	.15
Naphtha:			
60° F., 50-61 Be. gravity, in bulk	.17¾	.17¾	.17¾
60° F., 63-66 Be. gravity, in bulk	.19	.19	.19
60° F., 66-68 Be. gravity, in bulk	.20½	.20½	.20½
Kerosene:			
Standard white, 40-42 Be. grav., in bulk	.06½	.06½	.06½
Standard white, 40-42 Be. grav., in barrels	.13½	.13½	.13½
Standard white, 40-42 Be. grav., in cases	.16.9	.16.9	.16.9
Water white, 42-44 Be. grav., in bulk	.07½	.07½	.07½
Water white, 42-44 Be. grav., in barrels	.14½	.14½	.14½
Water white, 42-44 Be. grav., in cases	.17.9	.17.9	.17.9
†Lubricating Oils:			
Cylinder Stock, extra filtered, 600, barrels	.45	.45	.45
Cylinder Stock, light filtered, 600, barrels	.40	.40	.40
No. 1 white Neutral, .878 spec. grav.	.44	.44	.44
No. 5 Bright Stock, 897 spec. grav.	.47	.47	.47
Special "A" red oil, .897 spec. grav., 170 vis.	.20	.20	.20
No. 2 red oil, .903 spec. grav., 212 vis.	.21	.21	.21
No. 1 red oil, .905 spec. grav., 265 vis.	.22	.22	.22
Polar red oil, .906 spec. grav., 295 vis.	.23	.23	.23
Pale oil, "25", .890 spec. grav.	.21½	.21½	.21½
Pale oil, "28", .892 spec. grav.	.17	.17	.17
Paraffin Wax:			
120-122 a.m.p., per lb.	.06¼	.06¼	.06¼
125-127 a.m.p., per lb.	.06⅝	.06⅝	.06⅝

LOS ANGELES EXPORT PRICES

	April 28	April 21	April 14
Kerosene water white	.05½ .06	.05½ .06	.05½ .06
U. S. Motor gasoline, 54-56, 437 end point	.10½ .11	.10½ .11	.10½ .11

CRUDE OIL PRICES

Arkansas and North Louisiana

Caddo, 38° and above	$2.05
35° to 37.9°	1.95
32° to 34.9°	1.85
Below 32°	1.70
Homer, 35° and above	1.80
32° to 34.9°	1.70
31° to 32.9°	1.60
Below 31°	1.45
Haynesville, 33° and above	1.70
Below 33°	1.60
El Dorado, 33° and above	1.70
Below 33°	1.60
Bull Bayou, 38° and above	1.85
35° to 37.9°	1.70
32° to 34.9°	1.55
Cotton Valley	1.00
De Soto	1.90
Crichton	1.70
Bellevue	1.75
*Stephen, Ark.:	
Below 26°	1.25
26° and above	1.45

*Posted by Atlantic Oil Producing Co.

†Smackover:

(Standard Oil Co. of Louisiana)

Below 24°	.40
24° to 24.9°	1.10
25° to 25.9°	1.20
26° to 26.9°	1.25
27° and above	1.30

†Gulf Refining Co. same as Standard except one price of .40 on below 24°.

(Posted by Texas Co.)

Below 24°	.60
24° to 25.9°	1.00
26° and above	1.30

(Posted by Atlantic Producing Co.)

Below 24°	.40
24° to 24.9°	1.10
25° to 25.9°	1.20
26° to 26.9°	1.25
27° to 27.9°	1.30
28° and above	1.30

Wyoming and Montana

Rock Creek (Wyo.)	2.00
Salt Creek	1.60
Big Muddy	2.00
Mule Creek	1.50
Grass Creek (light)	2.15
Elk Basin	2.15
Lance Creek	2.15
Osage	2.15
Cat Creek (Mont.)	2.15
Sunburst (Mont.)	1.40
Lost Soldier	1.28
Greybull and Torchlight	2.00
Hamilton Dome	1.60
Hogback, N. Mex.	2.20

Lost Soldier and Lander based on contracts.

Oklahoma, Kansas North and Central Texas

Prairie Oil & Gas Co. and other major purchasing companies, except as noted:

Below 30°	1.35
30° to 32.9°	1.55
33° to 35.9°	1.80
36° to 38.9°	2.00
39° to 41.9°	2.25
42° and above	2.35
Sinclair Crude Oil Purchasing Co.—	
39° to 41.5°	2.25
41.6° and above	2.35
Magnolia Petroleum Co.:	
Below 28°	1.00
28° to 30.9°	1.35
31° to 32.9°	1.55
Corsicana light	2.00
Corsicana heavy	1.00
Mexia and Wortham	2.00

California

14° to 19.9°	1.25
20° to 20.9°	1.27
21° to 21.9°	1.30
22° to 22.9°	1.33
23° to 23.9°	1.36
24° to 24.9°	1.40
25° to 25.9°	1.44
26° to 26.9°	1.48
27° to 27.9°	1.52
28° to 28.9°	1.56
29° to 29.9°	1.60
30° to 30.9°	1.64
31° to 31.9°	1.68
32° to 32.9°	1.72
33° to 33.9°	1.76
34° to 34.9°	1.80
35° and above	1.85
Rosecrans-Athens Field, only:	
Below 35.9° gravity, same as other fields.	
36° to 36.9°	1.92
37° to 37.9°	2.00
38° to 38.9°	2.08
39° to 39.9°	2.16
40° to 40.9°	2.24
41° to 41.9°	2.32
42° and above	2.40

Humble Oil & Refining Co.

Powell, Currie, Richland	2.00
Mexia and Wortham	2.00
Moran crude:	
Below 30° gravity	1.35
30° to 32.9°	1.55
33° to 35.9°	1.80
36° and above	2.00
Ranger and North Texas, same as Prairie.	

Gulf Coast

Grade A	1.75
Grade B	1.50
Luling (based on contracts 90c and	1.15
Laredo (Magnolia Petroleum Co.)	.85
Rockdale-Minerva (Milam County)	1.25
Calliham (Live Oak-McMullen)	1.15
Webb, Jim Hogg, Zapata	1.00
*High Island	1.20

*Posted by Sun Oil Co.

***Somerset**

Below 30°	1.25
30° to 32.9°	1.35
33° to 35.9°	1.80
36° to 38.9°	1.95
39° to 41.9°	2.10
42° and above	2.35

*Posted by Grayburg Oil Co.

Eastern States

Penna Grade Oil in New York Transit Lines	3.40
Bradford District Oil in National Transit Lines	3.40
Penna Grade Oil in National Transit Lines	3.30
Penna Grade Oil in Southwest Pa. Pipe Lines	3.30
Penna Grade Oil in Eureka Pipe Line Lines	3.25
Penna Grade Oil in Buckeye Pipe Lines	3.15
Cabell Grade Oil in Eureka Pipe Line Lines	2.05
Corning Grade Oil in Buckeye Pipe Line Lines	1.80
Somerset Medium Oil in Cumberland Pipe Line Lines	2.15
Somerset Light Oil in Cumberland land Pipe Line Lines	2.30
Ragland Grade Oil in Cumberland Pipe Line Lines	1.20
Gaines	3.15
Lima	2.23
Wooster	2.15
Illinois	2.02
Indiana	2.03
Princeton	2.02
Plymouth	1.55
Waterloo	1.10
†Oil Springs, Canada	2.95
†Petrolia, Canada	2.88
*Western Kentucky, 36° and above	2.05
*Western Kentucky, 33° to 35.9°	1.95
*Western Kentucky, 32.9° and below	1.85
Cumberland, Barren and Monroe Counties (Kentucky), (Paragon Development Co.)	2.30

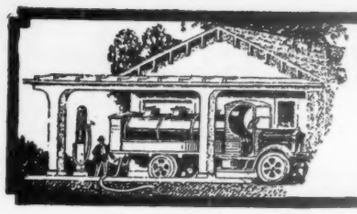
†Plus Government bounty of 26½c.

*Prices for Warren, Allen, Hancock, Simpson and Ohio Counties by Indian Refining Co.

Mexican Crude

*Tuxpam (f.o.b. Mexican ports)	1.35
†Panuco (f.o.b. Mexican ports)	1.25
Tuxpam (New York)	1.99
Panuco (New York)	1.76

*Plus 33.00c tax. †20.00 tax.



TANK WAGON MARKETS

Tank wagon quotations for gasoline and kerosene in United States as furnished by the large marketing concerns, April 28

ALL TANK WAGON AND SERVICE STATION QUOTATIONS INCLUDE TAXES

SOUTHERN DISTRICT

Standard Oil Co. (Kentucky)

	Gasoline			Kero.
	Tank wagon	Service Station	Inclds tax of	Tank wagon
Atlanta, Ga.	23.0	26.0	3.0	13.0
Augusta	23.0	26.0	3.0	15.0
Macon	23.0	26.0	3.0	14.5
Savannah	21.0	24.0	3.0	13.0
Birmingham, Ala	21.0	24.0	2.0	14.5
Mobile	20.0	22.0	2.0	12.5
*Montgomery	22.0	26.0	3.0	15.5
Clarksdale, Miss.	21.0	24.0	3.0	12.0
Jackson	21.0	24.0	3.0	10.0
Natchez	20.5	23.5	3.0	11.5
Vicksburg	20.5	23.5	3.0	11.5
Jacksonville, Fla.	21.0	24.0	3.0	13.0
Miami	23.0	26.0	3.0	14.5
Pensacola	21.0	24.0	3.0	13.5
Tampa	21.0	24.0	3.0	13.0
Lexington, Ky.	21.0	24.0	3.0	14.0
Covington	19.0	22.0	3.0	14.0
Louisville	21.0	23.0	3.0	12.0

*In addition to the State tax of 2 cents on gasoline, Montgomery has city tax of 1 cent on gasoline and ½ cent on kerosene.

SOUTHWESTERN DISTRICT

Magnolia Petroleum Co.

	Gasoline			Kero
	Tank wagon	Service station	Inclds tax of	Tank wagon
Dallas, Texas	17.0	21.0	1.0	120.
Fort Worth	17.0	21.0	1.0	12.0
Houston	17.0	21.0	1.0	12.0
San Antonio	15.0	18.0	1.0	12.0
El Paso	18.0	21.0	1.0	13.0
Muskogee, Okla.	18.5	21.5	3.0	12.0
Oklahoma City	19.5	22.5	3.0	12.0
Tulsa	18.5	21.5	3.0	11.0
Ft. Smith, Ark.	22.0	24.0	4.0	12.0
Little Rock	22.0	23.0	4.0	10.0
Texarkana	19.0	22.0	1.0	12.0

ROCKY MOUNTAIN DISTRICT

Continental Oil Co.

	Gasoline			Kero
	Tank wagon	Service station	Inclds tax of	Tank wagon
Casper, Wyo.	21.5	23.5	2.5	13.0
Cheyenne	23.0	25.0	2.5	14.5
Albuquerque, N. M.	26.5	29.5	3.0	16.5
Salt Lake, Utah.	24.0	26.0	3.5	18.0
Denver, Colo.	21.0	23.0	2.0	14.5
Pueblo	21.0	23.0	2.0	14.5
Butte, Mont.	23.0	25.0	2.0	16.0
Helena	25.0	27.0	2.0	17.0
Boise, Idaho	24.5	26.5	3.0	20.0

NEW YORK AND PART OF NEW ENGLAND DISTRICT

Standard Oil Co. (New York)

	Gasoline			Kero
	Tank wagon	Service station	Inclds tax of	Tank wagon
Albany, N. Y.	20.0	...	..	13.0
*New York	20.0	...	..	13.0
Buffalo	20.0	...	..	12.0
Rochester	20.0	...	..	13.0
Syracuse	20.0	...	..	12.0
Boston, Mass.	20.0	...	..	13.0
Providence, R. I.	20.0	...	..	13.0
Augusta, Me.	21.0	...	1.0	13.0
Manchester, N. H.	22.0	...	2.0	13.0
Burlington, Vt.	21.0	...	1.0	13.0

*Price in steel barrels.

Note: Standard Oil Co. of New York does not generally quote service station price in its territory. In most cases the service station price is 2 or 3 cents higher than tank wagon price.

PACIFIC COAST DISTRICT

Standard Oil Co. of California

	Gasoline			Kero
	Tank wagon	Service station	Inclds tax of	Tank wagon
San Francisco	17.0	20.0	2.0	15.5
Los Angeles	15.5	18.5	2.0	15.5
Fresno	17.5	20.5	2.0	19.5
Reno, Nev.	20.5	23.5	2.0	19.0
Portland, Ore.	18.0	21.0	3.0	16.5
Seattle, Wash.	17.0	20.0	2.0	16.5
Tacoma	17.0	20.0	2.0	16.5
Spokane	21.0	24.0	2.0	20.5
Phoenix, Ariz.	23.0	26.0	3.0	21.5

OHIO

Standard Oil Co. (Ohio)

	Gasoline			Kero
	Tank wagon	Service station	Inclds tax of	Tank wagon
All Ohio points.	20.5	22.5	...	15.0

NEBRASKA

Standard Oil Co. (Nebraska)

	Gasoline			Kero
	Tank wagon	Service station	Inclds tax of	Tank wagon
Omaha	18.0	20.0	2.0	12.5
Crawford	21.0	...	2.0	13.25
McCook	21.75	23.75	2.0	14.0
Norfolk	20.75	22.75	2.0	13.0
North Platte	21.75	23.75	2.0	13.75
Scotts Bluff	21.25	23.25	2.0	13.25

STANDARD OIL CO. (INDIANA)

Main Service Station Price

	Gasoline			Kero
	Tank wagon	Service station	Inclds tax of	Tank wagon
Chicago Dist—				
†100 gals or more	17.0	20.0	..	12.0

Tank wagon prices on April 19, 1922; g. up 1½c; May 8, g. up 1c; June 27, both up 1c; July 19, g. down 2c, k. down 1c; Oct. 10, g. down 2c; Oct. 21, g. down 1c; Feb. 5, 1923, g. up 1c; Feb. 20, g. up 1c; Aug. 14, g. down 6.6c; Oct. 4, k. down 1½c; Nov. 10, g. down 1.4c; Dec. 29, g. up 2c; Jan. 12, 1924, g. up 2c, k. up 1c; Feb. 5, g. up 2c, k. 1c; July 18, g. down 1c, July 30, g. and k. down 1c; Sept. 13, g. down 2c; Jan. 23, 1925, g. up 1c; Jan. 26, g. up 1c; Jan. 31, g. up 1c; Jan. 26, g. up 1c; Jan. 31, g. up 1c; Feb. 12, g. up 2c, k. up 1c; April 19, g. down 1c.

Decatur, Ill.	18.2	20.2	..	12.5
East St. Louis	17.1	19.35	..	11.6
Joliet	18.4	20.4	..	12.7
Peoria	18.2	20.2	..	12.5
Quincy	18.2	20.2	..	12.3
Davenport, Ia.	20.5	22.5	2.0	12.9
Des Moines	20.5	22.5	2.0	12.9
Keokuk	20.5	22.5	2.0	12.9
Sioux City	20.0	22.0	2.0	12.5
Duluth, Minn.	19.5	21.5	..	13.6
Minneapolis	19.2	21.2	..	13.6
La Crosse, Wis.	21.2	23.2	2.0	13.4
Milwaukee	20.1	22.1	2.0	13.2
Madison	20.3	22.3	2.0	12.5
Detroit, Mich.	20.8	22.8	2.0	13.2
Grand Rapids	20.7	22.7	2.0	13.1
Saginaw	20.9	22.9	2.0	13.3
Evansville, Ind.	21.0	23.0	3.0	12.5
Fort Wayne	21.4	23.4	3.0	12.9
Indianapolis	21.2	23.2	3.0	12.7
South Bend	21.4	23.4	3.0	12.9
Fargo N. D.	20.9	22.9	1.0	15.6
Huron, S. D.	18.0	20.0	3.0	14.1
Sioux Falls	20.5	22.5	3.0	13.6
*Kansas City, Mo.	20.9	22.9	3.0	11.3
*Springfield	20.8	22.8	3.0	12.2
*St. Louis	19.6	21.9	3.5	12.0
*St. Joseph	20.0	22.0	2.5	11.9
Wichita, Kans.	17.8	19.8	..	10.8
Bartlesville, Okla	19.9	21.9	3.0	10.9

*State tax is 2c. Remainder is city tax.
†Tank wagon price on less than 100 gallons, 18.0

ATLANTIC COAST DISTRICT

Standard Oil Co. (New Jersey)

	Gasoline			Kero
	Tank wagon	Service station	Inclds tax of	Tank wagon
Newark, N. J.	17.0	19.0	..	12.5
Atlantic City	17.0	...	..	12.5
Annapolis, Md.	20.0	...	2.0	11.5
Baltimore	19.0	21.0	2.0	11.0
Cumberland	20.0	22.0	2.0	12.0
Washington, D. C.	19.0	21.0	2.0	12.0
Norfolk, Va.	21.0	23.0	3.0	13.0
Petersburg	21.0	...	3.0	13.0
Danville	21.0	...	3.0	13.0
Richmond	21.0	23.0	3.0	13.0
Roanoke	21.0	23.0	3.0	13.0
Keyser, W. Va.	20.0	...	2.0	13.0
Charleston	19.0	21.0	2.0	13.0
Parkersburg	19.0	21.0	2.0	13.0
Wheeling	19.0	21.0	2.0	13.0
Charlotte, N. C.	22.0	24.5	4.0	14.0
Hickory	22.0	...	4.0	14.0
Mt. Aairy	22.0	...	4.0	14.0
Salisbury	22.0	...	4.0	14.0
Charleston, S. C.	23.5	26.0	5.0	14.5
Columbia	23.5	26.0	5.0	14.5

PENNSYLVANIA-DELAWARE AND PART NEW ENGLAND

Atlantic Refining Co.

	Gasoline			Kero
	Tank wagon	Service station	Inclds tax of	Tank wagon
*Pittsburgh, Pa.	19.0	24.0	..	14.0
*Philadelphia	19.0	24.0	..	14.0
*Scranton	19.0	24.0	..	14.0
*Allentown	19.0	24.0	..	14.0
*Altoona	19.0	24.0	..	14.0
*Erie	19.0	24.0	..	14.0
Dover, Del.	21.0	24.0	3.0	14.0
Wilmington	21.0	24.0	3.0	14.0
Springfield, Mass.	20.0	24.0	..	13.0
Worcester, Mass.	20.0	24.0	..	13.0
Boston	20.0	24.0	..	11.0
Providence, R. I.	20.0	24.0	..	13.0
Hartford, Conn.	21.0	25.0	1.0	13.0
New Haven, Conn.	21.0	25.0	1.0	13.0

*Pennsylvania tax of 2 cents is collected by the dealer and paid by him direct to the State.

CENTRAL SOUTH DISTRICT

Standard Oil Co. (Louisiana)

	Gasoline			Kero.
	Tank wagon	Service station	Inclds tax of	Tank wagon
New Orleans	18.5	20.5	2.0	11.0
Alexandria	18.5	20.5	3.0	12.0
Baton Rouge	17.0	19.0	3.0	10.5
Lake Charles	18.5	20.5	2.0	12.0
Shreveport	18.5	20.5	3.0	11.0
Memphis, Tenn.	19.0	21.0	3.0	13.0
Chattanooga	20.5	22.5	3.0	13.5
Knoxville	21.5	23.5	3.0	14.5
Nashville	20.5	22.5	3.0	12.5
Bristol	21.0	23.0	3.0	12.5
Little Rock, Ark.	21.0	23.0	4.0	10.0

TANK WAGON PRICE CHANGES

April 16.—Standard Oil Co. of Indiana advanced the tank wagon and service station prices of gasoline in Iowa 2 cents to cover a 2-cent state gasoline tax.

CRUDE PRICE CHANGES

April 23.—Standard Oil Co. of Louisiana reduced the price of Bellevue crude 25 cents a barrel. Joseph Seep Purchasing Agency reduced the price of Corning crude 15 cents.

April 24.—Standard Oil Co. of Louisiana eliminated the 60 cents price for Smackover crude below 24 gravity to apply for shipment, and posted one price of 40 cents a barrel.

OKLAHOMA GASOLINE MARKET WEAKENING

(Continued from Page 20)

material changes in prices, the market was firm with a tendency to advance. The 60-62, 400 gasoline was quoted at 11½-11¾ cents, and the 64-66, 375 at 12½-13. Although there was no activity in the 68-70, 350 gasoline, it still was being quoted at 13-13¼.

Kerosene and Distillates

The holding of the kerosene prices, which has been one of the features of the refined market for some time, continued to be noticed the past week. Although the movement was considered fair, the slight decline in demand failed to cause any shading in the prices. On the other hand some buyers had to shop some before getting the 42-44 water white kerosene at last week's quotation of 4¼-4½ cents. However, it still could be obtained at these figures as well as the 41-43 water white kerosene at 4 to 4¼ cents, and the 40-41 prime white grade at 3¾ to 4 cents. Distillates still continued to hold fairly firm at last week's figures. Three cents seemed absolute bottom on 36-38 grade and 3⅛ cents on the 38-40 straw.

Natural Gasoline and Blends

Efforts of some buyers to bear the natural gasoline structure with the weakening of motor gasoline proved unavailing during the week. The strength of Grade C was perhaps the most noticeable feature in the natural gasoline field. Very little, if any, of this product could be obtained under 9¼ cents. This was an advance in price of 1 cent in the last week and 2 cents in the last two weeks. B grades were extremely difficult to find either in North Central Texas or Oklahoma. A few scattering cars brought 9¾ cents, but these cars soon were taken up. The A grades were the only naturals which were plentiful during the week, but, despite this freedom, movements were excellent. No reports of Grade A below or above 10 cents were heard but some double A could be obtained for 9¾ cents. Blends held fairly firm, but were quoted fairly freely around 10 cents.

Fuel and Gas Oil

The fuel oil market was more or less of a question mark during the week. With Smackover competition, few sellers or buyers were able to define closely the market basis. While the market on 24-26 fuel perhaps might be considered 95 cents to $1, yet some of the product went to buyers for 92½ to 95 cents. Gravities below 24 generally were considered at 90 to 95 cents although the 90-cent price was shaded in some instances. With Smackover fuel selling freely for 70 and 75 cents, it was a matter of guess work on the part of many Group 3 refiners as to what the fuel oil market really was. During the last few weeks there seemed to be less and less differentiation between the grades of fuel oil, the 24-26 grade sometimes selling for under the lower gravity price. The 28-30 fuel oil showed only a slight decline, it being quoted at $1.08 to $1.07½. Gas oil (32-36) is continuing to weaken and can now be obtained fairly easy at 2¾ cents.

Lubricants and Wax

There seemed to be little change in lubricants, but if anything there was a considerable better movement both of neutral and cylinder stocks. Although in the past few weeks there has been a slight tendency to cut prices so far there have been no changes to speak of. A shipment Tuesday of 25 cars of bright stock by the Mid-Continent Petroleum Corp., (Cosden & Co.), was one of the outstanding events of this phase of the refined products. The shipment was valued at $225,000 and went to New Orleans for shipment to Japan by the Asiatic Petroleum Co. There was a good business in wax during the week, most of the product going for 4¾ cents.

RICHMOND CO. TURNS ATTENTION TO JAVA

Although the Richmond Petroleum Co., a subsidiary of the Standard Oil Co. (California) has stored all of its drilling equipment and has surrendered its leases to the Philippine Government in the Bondoc Peninsula, drilling operations may be started again. Dr. R. E. Dickerson, representative of the company in the Philippines, said the resumption of drilling operations depended entirely on the decision of the San Francisco office of the company. Doctor Dickerson said that at the present time the Richmond Petroleum Co. is centering its investigations in the Netherlands East Indies, including Java. He said the company was receiving the active cooperation of the Bureau of Mines at Bandoeng, Java, in all of its investigations.

The company spent more than two years and several hundred thousand dollars in drilling for oil in the Bondoc Peninsula, but the results did not justify a continuation of the work, although small quantities of oil were in evidence.

TAKING THE YAWN OUT OF BUSINESS LETTERS

A splendidly written book that could be used to good advantage by the correspondence department of many corporations has been published by the American Rolling Mill Co., of Middletown, Ohio. This work, compiled by Sherman Perry, fairly teems with sound ideas on the art of letter writing.

In this day and age when there is a lamentable tendency upon the part of many correspondents to display their pedantry in an attempt to employ what they imagine is graceful English, business letters abound in verbiage, and many letters in which the entire subject could be handled in two short paragraphs cover a full page.

One of the principal themes of the book is an appeal to correspondents to get away from hackneyed stock phrases so tiresomely used, and to make their letters more personal in tone. Many volumes have been written in an endeavor to "put the punch into business," but this book is an effort to "take the yawn out of letters."

One chapter of the book is devoted to a consideration of the language which the reader employs, rather than the language of the writer, and points out the wide variance of the talk of the technical man from the farmer, the professional man from the business man, and stresses the importance of addressing a man in his own terms.

The author wages a relentless war on commercial chestnuts of expression, and endeavors throughout to cultivate a discrimination between short words that are unusually forceful, and long words that are unusually weak.

SINCLAIR OILS

UNDER this Sinclair trade mark, there is marketed a wide range of petroleum products made to meet your exacting requirements—and shipped exactly as specified on your orders. Exactness is a quality of Sinclair Oils and Sinclair methods.

SINCLAIR REFINING COMPANY

NEW YORK
Sinclair Oil Bldg., 45 Nassau St.
Telephone: Rector 9320

CHICAGO
22nd and Rockwell Streets
Telephone: Crawford 2000

Cable Address: "Lucent"

Saving Gasoline Vapors at Refineries

Elimination of Evaporation Losses and Recovery of Condensable Vapors at McKean County Refining Co.'s Plant, Bradford, Pa.

By B. B. Stroud*

McKean County Refining Co., Bradford, Pa., Chairman Manufacturing Committee National Petroleum Association

Being one of the newest members of your association and having had less than two years' experience in the refining industry, I feel that I am somewhat presumptuous in telling you anything about refining economy. However, I have had some experience in the recovery of gasoline from natural gas and have always wondered why so few attempts were made to save gasoline vapors around refineries in the Pennsylvania district.

A number of methods have been devised which reduce to a minimum the natural evaporation losses; among these may be mentioned floating decks, insulation of decks, completely insulated tanks, gas-tight all-steel tanks with automatic pressure and vacuum relief valves, and the spherical tanks which are built of comparatively light material but which will stand considerable pressure.

A number of refiners have arrangements whereby they recover a part of the gasoline from the vapors given off by the stills. The following instances serve to illustrate. One refinery which I shall call No. 1, has furnished sketches illustrating the manner in which they handle their still vapors. Tank A is located near the tail house and gasses are separated from the condensate at this point. The gas is delivered to the bottom of either absorbing tank B or C and the gas bubbles up through naphtha from a perforated pipe. Any vapor escaping from either of these tanks is led up to a secon tank D similarly equipped where absorption becomes complete—the unabsorbed gas is piped to the still and used as fuel. When the naphtha in absorber B or C becomes saturated to a predetermined point, it is drawn off and the naphtha from D absorber is run into either B or C. The pressure necessary to force the gas through these absorbers is furnished by the stills and does not require in excess of 1½ pounds. The absorbing naphtha used has a 240 initial boiling point and 468 end point, and a blend is produced which has 92 initial boiling point and 12 per cent distillation loss.

This product is not suitable for sale as a commercial gasoline but must be mixed with 70 per cent straight run in order to be utilized. The final blend is 58.7 gravity, 430 end point with 99 per cent recovery. The cost of this entire equipment was approximately $2,500 and is large enough to take care of the still vapors from 1,400 bbls. of crude daily.

Another refinery which I shall call plant No. 2 uses the same principle, but instead of a tank for separating the gas vapors, they use a gas-tight look box. The gas is delivered from the look box to the bottom of an open naphtha tank and bubbles up from the bottom of this tank through a perforated pipe. About 2 feet of naphtha of 56.8 gravity having an initial boiling point of 168 and end point of 415 with 98.5 per cent recovery is put into the tank at the start and when it has reached a gravity of 58.7, it is drawn off. The gas is allowed to escape. The characteristics of this blend are as follows: Initial boiling point 106, end point 420, distillation recovery 96.5 per cent. This blend is used for some special gasoline. The cost of this equipment was approximately $150.

Gas Recovery Plant

The No. 3 plant put in a complete gas recovery plant after the refinery had been in operation some years and illustrates what can be done at any of your refineries. I have not visited this plant but its superintendent has very kindly given me the following information

"The system consists of a small rotary exhauster, direct connected to a steam engine, with which a vacuum of 6 to 8 inches is maintained on the vacuum lines, which in turn connect with the receiving house and some 20 different tanks, the tanks themselves being protected against a pressure or the creating of too much vacuum by a combination Oceco safety and vacuum valve set to operate at 2 inches of water.

"Very few of the tanks were gas-tight steel tops. To overcome this difficulty on the wood top tanks, they were insulated against any infiltration of air or escape of gasses by applying Johns-Manville insulated tops. This accomplished two purposes: It permitted maintaining a very slight vacuum on the tanks and at the same time its insulation had a tendency to cut down evaporation. One inch of water is maintained as far as possible on all tanks.

"The gas is picked up and passed through a series of coils over which cold water is flowing. Any condensation of the vapors is trapped out. The uncondensed portion of the gas is then passed into the bottom of an absorption tower 3 feet in diameter and 40 feet high. Twenty feet of this tower is packed with tile.

"The absorption fluid, which is usually a 52 gravity naphtha, is pumped through a cooling coil over which cold water is passing and then into the top of the absorption tower through a spray consisting of slotted pipe, allowing the naphtha to pass down through the tile and at the same time gasses are passing up. This, of course, absorbs all but the drier portion of the gas. This gas, with which there are quite considerable amounts of air mixed, is then passed on to the boiler house to be burned. To avoid a backfire through this line the gas is passed through a series of two check valves.

"In operation, this system is very simple and in any plant operating as we do, will quickly pay for itself, and in any ordinary size plant, running upward of 25,000 bbls. of crude per month or even less, this system could be installed including the insulation of some 20 tanks, providing they were not too large, ready to operate at a cost of approximately $20,000. We usually reclaim 3,800 to 4,500 gallons of gasoline each week in addition to some 50,000 to 60,000 feet of gas, which we burn under our boilers each 24 hours.

"It might be well to explain that we are operating a Sharples centrifuging plant with 60 gravity gasoline as well as purchasing some 80,000 to 100 000 gallons of casinghead and absorption gasoline each month, which necessarily gives us considerable evaporation losses to reclaim and might possibly make this equipment look a little better operating as we do than one that was not."

McKean County Plant

The McKean County Refining Co. was designed and built with the idea of eliminating all evaporation losses and recovering as far as possible all condensable vapors.

Specifications for all tanks called for gas-tight roofs, and in order to insure this, tests were made upon completion with 4-inch water pressure—all roof and eave seams were thoroughly caulked under test. Openings for gauging, thieving and manipulation of swing lines were made gas-tight but easily opened and closed to eliminate undue effort on the part of the workmen.

In deciding upon method of recovery, we selected the compression system because we were able to market a very light liquefied gas which could be obtained by compressing to 250 pounds. For reference purposes in describing this equipment, I will use manufacturers' names, but do not mean to recommend any particular equipment.

We selected an I-R steam-driven two-stage compressor having an actual capacity of 127,500 cubic feet per 24 hours at 250 r.p.m. The low stage compresses the gas from atmosphere intake to 40 pounds, the high stage raises this pressure to 275 pounds. The throttle is operated by a Ruggles-Kuggleman regulator. This device regulates the speed of compressor so that a constant predetermined intake pressure is maintained; in our operation we keep about 2 inches of water vacuum at the receiving tank—this gives about one-half inch vacuum at the various tanks. This particular regulator is sensitive to a variation of one-half inch of water.

The compressor is set as near the tail house as possible in order to eliminate the necessity of large diameter piping from tail house as the largest volume of gas is obtained from this point.

Any recovery system requires gas-tight look boxes and considerable difficulty was experienced in getting a satisfactory box. We finally modified the Joseph Reid equipment and have eliminated all trouble from this source. I have a few photographs of this look box for your use. They have been in service for about six months without a single instance of cracked glasses. Pyrex glass plates which are standard with the manufacturers are used. These plates will stand 20-inch pressure and rapid changes of temperature.

Equipment Used

All gasoline, naphtha and crude tanks are connected to the gas intake system. The lines from run down are carried overhead and discharge into a receiving tank; the lines from the field storage are surface lines but also discharge into receiver. This is to eliminate the possibility of liquid condensing in gathering lines and being drawn into compressor cylinder.

The gas from the low stage passes through a simple pipe coil in water box and condensate collected in receiving tank—the uncondensed vapors pass to high stage, the discharge from the high stage passes through similar coil and condensate collected. These tanks are six times the capacity of first stage receiver to provide some storage capacity for both distillate and gas; the uncondensed vapors pass through pipe line to Chaplin-Fulton high pressure regulator and pressure is reduced to 30 pounds. From this regulator one pipe line goes to a station central to run-down tanks and another to a station central to field storage. At these stations, gas pressure is further reduced by a low pressure regulator to about four ounces and then goes to a duplex vacuum breaker regulator. The function of this device is to allow a slight circulation of gas through system when compressor is throttled to the lowest possible operating speed. It also provides against excess vacudm should the compressor regulator fail to operate.

In order to eliminate any possible injury to tanks or stills from excessive vacuum or pressure due to failure of the mechanical devices, an oil seal is provided which normally does not operate but will relieve either pressure or vacuum.

It is essential, of course to eliminate every possible chance of leaks but at the very low vacuum or pressure this is not a difficult matter. In opening a tank for any purpose, care is exercised that if slight vacuum exists this be overcome by closing valve on gas line to compressor and allowing gas from return system to enter tank. A "U" tube is provided to show when tank is at atmospheric pressure.

No Contact With Atmosphere

From the receipt of the crude until finished light oils are pumped into cars there is no contact with atmosphere. We have an arrangement so that cars can be loaded under the same conditions but have not fully perfected this.

The first stage product mixed with 200 initial boiling point, 440 end point naphtha gives a gasoline having the following characteristics: Gravity 58.4, initial boiling point 112, end point 438, recovery 99 per cent residue one-half of 1 per cent.

As we have a sale for the high stage product we do not attempt to use this gasoline but tests show that 75 per cent of it can be used and make a gasoline superior to the average U. S. Motor gasoline on the market. The non-condensable gasses average 10 cubic feet per barrel and are used for fuel. The cost of the entire equipment including buildings was approximately $7,800,000. This equipment will handle vapors from 1,000 bbls. of fresh crude per 24 hours.

Now what we are all interested in is what this means in dollars and cents.

The records of the No. 1 plant previously mentioned, show they recover 4 gallons of gasoline per barrel with no credit for gas used as fuel.

The No. 2 plant shows .19 gallons per barrel.

The No. 3 plant recovers approximately 215,000 gallons of gasoline per year and 18,250,000 cubic feet of gas suitable for fuel.

The McKean County Refining Co. recovers .47 gallons of gasoline, .394 gallons liquefied gas or in terms of gasoline, .755 per barrel and 10 cubic feet of combustible gas.

The operation of the absorption method is practically without cost except for power expended in pumping naphtha, which is negligible.

The use of the rotary exhauster as in the case of No. 3 plant, and the compressor as used by McKean County Refining Co., amounts to very little as for the greater part of the time very slight displacement is necessary and as the exhaust steam is utilized for power the factor is very low. For the same reason the upkeep on this equipment is slight.

In addition to actual profit derived from saving gasoline and gas a perhaps greater profit indirectly accrues from reduction of fire hazard.

If the space above the oil in a tank is filled with gas vapors instead of a mixture of air and gas, there will be no explosion even in the case of a direct hit by lightning. If tanks are all-steel and properly grounded, lightning has lost its terror. If tanks are gas-tight but of wooden deck construction a direct hit might rupture the deck and due to non-conductivity of wood sufficient heat generated to ignite it but the resulting fire could be easily handled as no explosion would follow.

All gas in the tail house is eliminated and this so common source of fire removed.

*Before National Petroleum Association, Cambridge Springs, Pa.

DEATH OF GEORGE L. SHOFF

BRADFORD, Pa., April 25.—George L. Shoff, 65 years old, who had operated in the Bradford Field for many years, died at his home here after a short illness. Mr. Shoff owned oil properties near Duke Centre and lived in that town for many years recently moving to Bradford.

Water Treatment in Gasoline Plants

Prevention of Rusting and Scaling Discussed Before Association of Natural Gasoline Manufacturers With Suggested Remedies

By Emby Kaye*
Skelly Oil Co.

The easiest prey to attack in a gasoline plant are the coils and knockout box, or dephlegmator. The ends of the coils and headers are the first to become corroded. This is true because they are not always wet, but rather wet and dry alternately as the wind and current blow the water as it drops after leaving the sprays. The corrosion manifests itself to a greater extent on the hot end, a fact easily explained because the heat causes this part of the coils to dry more readily. As it dries, the iron unites with the oxygen from the air and forms rust (ferrous oxide). Where the coils are wet, it is more difficult for the oxygen to reach the iron because of the ever present film of water, and hence the rusting action (corrosion or slow combustion) is retarded.

There are hundreds of different sorts of water treating compounds on the market and we have all fallen victims to several. Our general experience has been that there is no compound for rust prevention for hot coils. Rusting cannot be economically prevented on the hot surfaces without appreciably destroying the heat transfer efficiency of those coils. A greasy film applied to shut off oxygen practically insulates the pipe and thereby brings about a condition similar to scaling. Moreover, on the very hot ends, e.g., where the vapor comes from the stills, or where the gas enters from the compressors, the unctuous paste will melt off and leave the pipe exposed. The net result is money and time lost.

Effective Methods

The most effective methods of water treatment to retard the corrosive and prevent the scaling action of bad water, are by the employment of a water softener, or where the nature of the water permits, an evaporator. In this manner, i.e., by neutralizing the salts (in a softener) or by leaving them in the unused water, (by an evaporator) the scale nuisance can be practically eliminated. The only obstacle to these methods is the initial expense and maintenance cost of the equipment. All industry, however, is coming more and more to realize that these major investments are justified if the trouble can be eliminatel only at a greater maintenance cost of the industrial plant. Certainly if it is cheaper to install and maintain a softener or an evaporator than it is to leave it out of consideration and have to replace coils, knockouts, cylinders and boilers, more often an evaporator or softener should be employed. It is false economy and poor engineering to keep down the initial investment at the expense of bleeding the income over a period of years by continuous replacements.

The evaporator or water softener will most economically be used in connection with the closed cooling system both for engine jacket cooling and condensers and gas coolers. The make-up water per engine unit is negligible as it is the make-up water for the gas coolers and condensers, and as the system is filled with distilled or neutralized water, the work of the evaporators would be confined to make-up water for the boilers and the negligible make-up for the cooling water. The intial expense and the lack of full appreciation of the enormous saving in maintenance accompanied by this system explains the lack of such installations in this territory. I venture to say that when the industry is awakened to the possibilities of the closed system all new plants will be so equipped and present plants transformed where expedient.

In the present type of plant, where no provision has been made for "closed cooling" systems, the enormous amount of water that would have to be treated may make questionable the use of either the evaporator or softener. Each plant must needs be studied by itself, and the present expense, volumes handled, and gasoline and revenue produced should all have weight on the question of deciding on an installation.

Frequent Painting

It is my opinion that where raw water is used in an open system, there is only one way to protect the coil headers even when using some kind of water treatment, and that is to clean them and paint them with high heat-test paint, if necessary once a week, although once a month will catch most conditions. While it is true that most paints will come off, yet the cleaning and fresh paint, the smooth surface effected, will retard corrosion. It will not let rust get a "toehold" until the next cleaning. Once rust has taken a firm hold, the game is up. If the the coils have been neglected for a long time, it is probable that the removal of the rust coating will develop a hole and leak. Invariably, when the personnel of a plant is admonished on this score, the answer is that it is dangerous to remove the rust as the pipe is so thin a hole will show up. However, if rusting has taken hold, the intelligent use of a small hammer will develop the true condition of the pipe and whether or not the same can be scaled and painted, or replaced, can be determined. The paramount thing is not to allow the condition to get out of control.

In addition to rusting, water causes another evil, previously referred to as scaling, caused by the deposit of salts held in solution by the water. The treatment of water by chemical reacting agents to prevent scaling has been found to be more or less successful. Yet, even under the best conditions with the use of compounds, scale will form. Two kinds of scale appear, under different conditions.

One form of scale is soft, muddy and massy. In some instances a solution of blue vitriol circulated with the spray water will remove it. The surest means, however, is by the use of a high pressure water hose augmented by a broom. If this soft accumulation is periodically removed, not only will hard scale not form, but a generally efficient cooling system will be noted. A further result will be a more wholesome appearing plant, free from the foul odors which this slush produces. (It should be added that the mud and dirt and scum from the pit and surfaces of the tanks should be removed, and the water changed as necessity may demand.) Too often you will find that the water in the coil pits and tanks is seldom changed. The good water is evaporating all the time while the minerals remain, forming a highly concentrated scale, forming fluid that is really not water.

Removal of Scale

Hard scale can generally be removed by air hammers or just ordinary hammers. Vibration of the pipe will cause the scale to break off. In other cases, chemical solutions have been found to soften the scale and make it possible to wash off, as previously mentioned. Care must be taken that the compound used should eat away only the precipitation and not affect the rust or iron. Too rapid action and removal of rust often exposes many holes and develops leaks. What is to be aimed at is the prevention of new scale and the removal of scale, not the removal of steel. Although this seems perfectly obvious, it is a difficult idea to get over to some of the venders of anti-scale.

No one would attempt to gainsay the fact that good results have been accomplished by several of the leading chemical companies who are selling chemicals and service in connection with the water treating, while on the other hand quack remedies are on the market. A sort of lethargy has existed with reference to water treatment for this reason. The panacea for the elimination of all water troubles did not perform. No doubt, a good bit of the trouble is accounted for by the fact that we expected immediate results and 100 per cent improvement of conditions without lending very much cooperation or applying very much care to the proper use and application of the chemicals even after we bought them and paid for them.

Often as not, do we not buy a barrel of chemicals and ship it to a plant where particularly bad conditions prevail and expect the plant to "use it"—without having made proper provision for its use? How many of us have not seen so much of boiler compound thrown into the hot pit spasmodically, or so much of a chemical into the coil pit—and then feel we had given the thing a chance and concluded that the darned stuff would not work, only to repeat the process a year later at a different plant, but perhaps with a different chemical from the different concern?

If you have not proper facilities for performing the analysis necessary, I should think you would go to some reliable concern that specialized in water treatment. It would eliminate off-hand and without formalities those folks who have a remedy without reference to your water. The chances are they have something that will eat away the "innards" of your equipment and will prevent scale at too great an expense. Then carry out the recommendations of the chemist.

Water Softening

These recommendations will probably be confined to the installation of a home made water softener. The reason will immediately suggest itself. He will want a tank in which to treat the water so that what salts are precipitated will remain in the tank and not in the circulating system. If you are to treat boiler-feed water, he will want two tanks to be used intermittently. He will want to neutralize the water before it goes into the boiler. This is your crude softener—and you are treating water by the batch system.

This installation is sometimes avoided because the topography at the plant is not so located as to permit gravity flow from the treating tank to the system and the general desire to get away from additional pumps, or more often because of the expense of treating. In that event, if it is considered inexpedient to install the closed system, scale is permitted to form, later to be removed from coils as already discussed, and from engine jackets and knock-out boxes by means of an acid or by a widely-used chemical designated by a formula of one of the large chemical concerns.

The formation of a little scale is not as detrimental to a gas engine as commonly supposed. It may be entirely justifiable to wait until scale has formed to such an extent that heat transfer is beginning to be affected to a noticeable extent before the engine is boiled out. The danger of this system lies in its susceptibility to negligence, the chance that the cleaning will not be performed until damage has been done. In an organization worth the name, this should not be an important consideration, and with proper supervision this system can be made to be productive of efficient and economical operation.

Warning on Acids

In the use of any acid, great care must be taken to see that too strong a solution is not used. The strength of the solution must be calculated on the basis of the thickness and kind of scale to be removed. A 50-50 solution, which is comparatively strong, is generally used, as the "acid treating" is usually delayed until the equipment has reached the stage where heat transfer or cooling has been materially diminished by the insulating effect of the scale. Too much precaution cannot be taken to see that the engine water jacket is promptly washed out with water after the "boiling out solution" has been drained. The air coming in contact with the acid if not immediately washed out, will cause the metal to be eaten out due to oxidation, which is the detrimental reaction of an acid.

The use of so-called "spent" hydrochloric acid in the spray system, after it has been used in de-scaling engine water jackets, is dangerous, and discouraged. Often as not, the acid is not spent and retained in the system, however diluted, exposes coils, sprays and water pumps to too great a danger.

Exhaust Steam

I have intentionally failed to discuss the saving of exhaust steam around a plant because this is being done almost universally. In some cases, the steam is passed through a closed condenser-evaporator which not only condenses the exhaust steam, but also evaporates some water which increases the supply of make-up water for the boilers and at the same time preheats the boiler-feed water. In some of the older stations, a crude hot pit serves to preheat the make-up water by passing the steam in under it and at the same time condenses most of the exhausted steam coming from stills and pumps. Water from the knock-out which represents condensed steam injected into saturated oil in the preheater or still, together with water from the waterleg or accumulator tanks, further augment the supply of distilled water for use in boilers.

Particular stress is laid on the necessity of having good water for boiler use, not only because of the direct and quick harm that can be done on account of scale in the boiler, but because, moreover, of the ineffective operation of stills in which live steam is used with boiler-feed water which causes foaming. An impure water carried over into the still upsets the operation and causes a product difficult to correct. The amount of water carried over into the still causes the oil and this water to boil instantaneously, and invariably a considerable amount of mineral seal oil is carried over into the vapor line and ultimately into gasoline storage, because the knock-out box or dephlegmator, being overtaxed, cannot take care of all the excess oil, and permits it to go through with the gasoline vapors.

Scale Prevention

There has recently appeared in this territory a new method of scale prevention known as "anti-scale," in which an electric current generated by a thermodynamic cell, is the agency. A battery of the size required by the particular piece of equipment is connected to the exhaust, in the case of a gas engine, and to the steam outlet of a boiler for the purpose of providing the necessary heat for the generation of the electric current, and the terminals are connected by means of electric cords to the engine or boiler, as the case may be, so that all of the equipment will come within the range of

*Before Association of Natural Gasoline Manufacturers.

the generated current. In the case of a boiler the terminals are connected to the blow-off line and to the water inlet, while in a gas engine the water intakes of the compressor and engine are used. In this way the engine jacket and the boiler shell and flues lie in the area through which the current must needs pass.

It is contended by the licensees of this anti-scale equipment that the current of so many miliamperes set up and present on the water surfaces make for a reversal or neutralizing of the process of corrosion. The current creates a back pressure behind the scale and removes it, and from then on prevents the adhesion of new particles of scale on the hot surfaces. Inasmuch as results were guaranteed and installations offered to be made without cost, it was not necessary for any of us to run any risk with these experiments, and because no expense to us was involved we were not as much interested in the theory and pretenses of the vendors of the equipment as much as we were in the results.

Result of Tests

Nor am I now interested so much in the cause and effect as in the results which we have experienced in our own plants and in what we may reasonably expect in the future. We have permitted one of these installations in several of our plants on both boiler batteries and gas engines and I am constrained to permit our own experience to guide us in the future. A five months' experience has shown us that under varying conditions of operations, where we had been in the habit of expecting scale in our boilers and where we were obliged to clean our boilers every 10 days, we have found that this equipment has absolutely prevented any scale from forming. Suspecting, as we did, that perhaps the nature of the water had changed, we not only caused a complete analysis to be made but, in fact, removed the terminals and operated for several weeks without the equipment and found a gradual reappearance of the hard calcium scale which we had previously experienced.

While we have found in every instance of shut-down a perfectly clean shell in our boilers, we are not yet thoroughly sold on this method of scale prevention because of a new trouble that we were made to face by the elimination of scale. I have reference to corrosion of all surfaces as soon as they come in contact with the air upon opening of the boiler and cleaning out such fine dirt or mud that may have accumulated and which was not expelled through the boiler blow-off. This is indeed a most serious matter. Some means must be found to eliminate this corrosion. We are endeavoring to do this by the injection into the boiler or sodium silicate which is claimed will coat the hot surfaces within the boiler with a thin film of protection against contact with air. If this process is successful we, at least, will be willing to believe that a sure means of scale prevention in boilers has been found. Meanwhile, we disconnect the boilers several days before they are shut down for inspection and permit a protecting scale to form.

Gas Engine Experiments

Our experiment with a gas engine has not been successful. However, I wish to point out the fact that this engine was one of the battery of 23 and that there can be no doubt but what the generated current leaked by the machine and was spent upon some of the others in the battery. Experiments are being made by the American licensees of the patents with a gas engine in an isolated station, and I cannot see why satisfactory results will not be found, for the conditions are certainly similar to that in a boiler and good results in the one case should be a criterion for all classes of equipment of this kind, including even closed condensing units.

The crux of the problem will be the definite attainment of knowledge with respect to the current necessary for the protection of the particular piece of equipment, the prevention of corrosion and the practical perfection of insulating from other metal equipment the units that it is desired to protect.

The initial cost is high but is, undoubtedly, necessary on account of the expense of experiment that had to be performed and the scarcity of sales. I, for one, am hoping that if the thermodynamic cell proves its utility, the cost thereof may be reduced to such an extent that we can unhesitatingly recommend them to our several concerns. A close examination of the equipment reveals little, if any possibility of deterioration of the cell and, inasmuch as there is no expense involved in upkeep, the application with respect to our industry in the various ways that it can be used, can be made to pay dividends by the saving of shutdown hours and the protection of our engines and boilers from extreme abuse.

Cost and Maintenance

I do not want to be put in a position of holding the brief for this particular kind of anti-scale, but on the other hand, I can picture no greater pleasure in Heaven than that of operating a gasoline plant or a number of plants without the grief incident to water, and without the necessity of eternally analyzing the water with respect to the increasing or decreasing amount and the nature of the mineral solids, etc., therein, and the necessity of regulating the amount and kind of reacting agents to bring about, at best, only temporary relief. In the one case (I am assuming, of course, the certain proof of the success of this anti-scale) 100 per cent functioning is affected without the personal element; whereas, in the second case, we are depending for results upon the diligence and understanding, and the cooperation of water analysis, plant operators, and the adaptability of the chemicals. On the one hand we have a high first cost without upkeep; on the other, a small initial investment and a continuous maintenance bill, and an ever diligent watchfulness and attention.

NORTH CENTRAL TEXAS

(Continued from Page 32)

Kolp and others' No. 3 Waggoner, 300 bbls., at 2,029 feet; No. 6 Waggoner, 3,000,000 feet of gas at 1,220 feet; McCamey and others' No. 14 Stephens, 60 bbls., at 1,337 feet; Priddy and others' No. 2 Castlebury, dry at 1,353 feet; Stanley and others' No. 4 Stephens, 30 bbls., at 1,307 feet; No. 5 Stephens, 2,500,000 feet of gas at 1,310 feet; No. 6 Stephens, 40 bbls., at 1,305 feet; The Texas Co.'s No. 299 Waggoner, 30 bbls., at 1,672 feet.

Archer County: Atlantic Oil Producing Co.'s No. 6-A Parrish, 120 bbls., at 1,565 feet; Franklin and others' No. 6-B Parrish, 85 bbls., at 1,554 feet; Waite Phillips' No. 1 Wilson, 130 bbls., at 1,719 feet; Phillips Petroleum Co.'s No. 23 White, 20 bbls. of oil and 10 bbls. of water at 1,602 feet; Prairie Oil & Gas Co.'s No. 9-A Wilson, 30 bbls., at 1,393 feet; Shappell Oil Co.'s No. 18 Jackson, 75 bbls. of oil and 12 bbls. of water at 1,798 feet; Texhoma Oil & Refining Co.'s No. 5-C Wilson, dry at 1,638 feet; Wolfe and others' No. 3 Chilson, 125 bbls., at 1,805 feet; Woodburn Oil Corp.'s No. 16-A Wilson, dry at 1,810 feet; British American Oil Co.'s No. 5 Rogers, 127 bbls., at 1,281 feet; No. 6 Rogers, dry at 1,509 feet; Clark and others' No. 3 Rogers, 25 bbls., at 1,341 feet; No. 6 Echols, 95 bbls., at 1,305 feet; Continental Oil Co.'s No. 12 Harmel, dry at 1,316 feet; Crossling and others' No. 1 Kreiter, dry at 1,613 feet; Davis Hart Oil Co.'s No. 6 Roach & Junker, 110 bbls., at 1,235 feet; Maer and others' No. 1 York, dry at 1,506 feet; Magnolia Petroleum Co.'s No. 5 Stampfli, dry at 1,367 feet; No. 6 Stampfli, 86 bbls., at 1,345 feet; Gulf Production Co.'s No. 1 Kunkel, 5 bbls., at 1,206 feet; No. 12 Nichols, 95 bbls., at 1,553 feet; No. 6 Rogers, dry at 1,344 feet; No. 3-A Rogers, 115 bbls., at 1,324 feet; Major Petroleum Co.'s No. 1 Cowen, 218 bbls., at 1,084 feet; McGee and others' No. 3 Richardson, dry at 1,337 feet; Murchison and others' No. 3 Echols, dry at 1,352 feet; No. 4-A Harmel, dry at 1,313 feet; Panhandle Refining Co.'s No. 2 Rogers, dry at 1,350 feet; Richardson Brothers' No. 1 Boone, dry at 1,859 feet; Shaw and others' No. 4-A Hayter, 85 bbls., at 1,329 feet; Sun Oil Co.'s No. 1 Graham, dry at 1,525 feet; The Texas Co.'s No. 20, Ragle, 90 bbls., at 1,098 feet; Texhoma Oil & Refining Co.'s No. 15 Harbison, dry at 1,396 feet; White Brothers' No. 9 Kunkel, 440 bbls., at 1,158 feet; No. 9 Kunkel, 260 bbls., at 1,160 feet; Willis and others' No. 1 Greenway, dry at 1,403 feet.

Young County

Gulf Production Co.'s No. 2 Gambrell, dry at 1,390 feet; No. 1-D Hamilton, 154 bbls., at 1,204 feet; Humble Oil & Refining Co.'s No. 7 Schlegel, 20 bbls., at 1,191 feet; Jenson Oil Co.'s No. 1 Vernon, dry at 1,305 feet; Leash and others' No. 8 Kemp, 32 bbls. at 1,078 feet; Norton and others' No. 3 Hamilton, 150 bbls., at 1,202 feet; Sun Oil Co.'s No. 1 Rogers, dry at 1,255 feet; The Texas Co.'s No. 4 Gambrell, 120 bbls., at 1,217 feet; No. 12 Gambrell, 232 bbls., at 1,230 feet; No. 14 Gambrell, 230 bbls., at 1,206 feet; No. 17 Gambrell, 190 bbls., at 1,208 feet; No. 20 Gambrell, 450 bbls., at 1,217 feet; Wilson and others' No. 1 Logan, dry at 1,078 feet.

Stephens County

Pender Production Co.'s No. 1 Davis, 7 bbls., at 3,342 feet; States Oil Corp.'s No. 2 Bales, dry at 3,766 feet; The Texas Co.'s No. 11 Keathley, 82 bbls., at 2,460 feet.

Eastland County

El Dorado Oil & Gas Co.'s No. 1 Beard, dry at 3,744 feet.

McMurry and others' No. 4 Newton, 100 bbls., at 1,287 feet; Mendenhall and others' No. 3 Newton, 75 bbls., at 1,261 feet; Moore and others' No. 1 Gafford, 432 bbls., at 1,247 feet.

Reagan County

Big Lake's No. 18 University, making 8,753 bbls. at 2,928 feet; Pilot Oil Corp.'s No. 1 University, dry at 3,300 feet; Texon Oil & Refining Co.'s No. 9, Group 1, University, 1,712 bbls., at 3,018 feet.

Baylor County

Jones and others' No. 1 Stevens, dry at 1,825 feet; Bussell and others' No. 1 Bussell, dry at 2,060 feet.

Clay County

Shelton Oil Co.'s No. 1 Boddy, dry at 1,375 feet.

Montague County

Humphreys Corp.'s No. 1 Howard, 50 bbls., at 847 feet; Texhoma Oil & Refining Co.'s No. 1 Lemon, 2,500,000 feet of gas at 747 feet.

Cooke County

Big Indian Oil & Gas Co.'s No. 1 Davis, 25 bbls., at 3,529 feet.

Wichita County Drilling

Brookover and others' No. 1 Hefley, drilling at 1,379 feet; Continental Oil Co.'s No. 6 Roller, 1,210 feet; Magnolia Petroleum Co.'s No. 1 Weeth, 1,555 feet; No. 110 Reilly, underreaming; Wilcox and others' No. 1 Musgrove, drilling at 500 feet; Allen Oil Co.'s No. 29 Allen, 1,575 feet; Applegate and others' No. 11-A Jennings, spudding; Brashear and others' No. 1 Fassett, drilling at 1,525 feet; Empire Gas & Fuel Co.'s No. 7 Pierce, 1,445 feet; No. 10 Pierce, 703 feet; Eureka Production Co.'s No. 12 Waggoner, 1,000 feet; Hawkins and others' No. 7 Watkins, 1,325 feet; No. 1-B Watkins, fishing at 1,771 feet; Howell and others' No. 1-B Burnett, drilling at 1,000 feet; Humble Oil & Refining Co.'s No. 2 Waggoner, 1,465 feet; Kruger and others' No. 13-A Allen & Kemp, 1,700 feet; Magnolia Petroleum Co.'s No. 13 Douglas, setting casing at 600 feet; No. 17 Maer, drilling at 1,500 feet; No. 44 Rio Bravo, 440 feet; No. 45 Rio Bravo, 970 feet; No. 4 Watkins, coring a sand at 1,821 feet; Moore and others' No. 4 Burnett, setting casing at 2,018 feet; Murchison and others' No. 4 Allen, drilling at 1,300 feet; Narbo Oil Co.'s No. 8 Waggoner, 1,000 feet; O'Donohoe and others' No. 1-B Allen & Kemp, coring a sand at 1,220 feet; O'Neil and others' No. 15 Rio Bravo, drilling at 1,213 feet; Patterson and others' No. 1 Fisher, 700 feet; Petroleum Production Co.'s No. 1 Burnett, spudding; No. 14 Maer, drilling at 1,650 feet; Powell Oil & Development Co.'s No. 1 Powell, 750 feet; Riggs and others' No. 1 Burnett, 1,400 feet; Rio Bravo Oil Co.'s No. 15-A fee, 800 feet; Ryan Petroleum Co.'s No. 33 Nance, 900 feet; Section 2 Oil Co.'s No. 7 Burnett, 2,130 feet; Stidham and others' No. 3 Daume, 1,790 feet; Texhoma & Cullum's No. 7-A Burnett, drilling oil sand at 1,813 feet; No. 3-B Burnett, drilling an oil sand at 1,820 feet; No. 4-B Burnett, rigging to pump; Texhoma and others' No. 8 Burnett, setting casing at 1,945 feet; No. 4-C Burnett, drilling at 1,226 feet; No. 3-E Burnett, 1,866 feet; Underwood Drilling Co.'s No. 1 Pace, rigging to pump.

Wilbarger County Drilling

Atlantic Oil Production Co.'s No. 1 Zepperle, drilling at 1,845 feet; No. 3 Zepperle, washing out at 1,325 feet; Atlantic Oil Production Co.'s No. 4 Zipperle, drilling at 800 feet; Barkley and others' No. 2 Stephens will test a sand at 1,804 feet; Beatty and others' No. 1 Waggoner (Section 15), spudding; No. 1 Waggoner (Section 47), drilling at 1,300 feet; Brewer and others' No. 1 Schmoker, 1,200 feet; Bridwell and others' No. 6 Dill, 1,300 feet; No. 7 Dill, spudding; No. 1 McCrary, drilling at 1,300 feet; No. 9 Stephens, 1,050 feet; No. 1 Waggoner, bailing at 2,344 feet; Bridwell & Texas Pacific Coal & Oil Co.'s No. 1 Waggoner, drilling at 2,100 feet; W. G. Burton and others' No. 1 Zipperle, 1,200 feet; Burton and others' No. 1 Waggoner, 1,735 feet; Consolidated Oil Co.'s No. 1 Waggoner, rigging to pump at 1,968 feet; No. 2 Waggoner, spudding; No. 3 Waggoner, spudded a new hole; No. 4 Waggoner, drilling at 1,200 feet; No. 5 Waggoner, spudding; Continental Oil Co.'s No. 4 Zipperle, drilling at 1,212 feet; No. 5 Zipperle, 1,420 feet; Durham and others' No. 2 Waggoner, spudding; No. 3 Waggoner, spudding; Dyson and others' No. 1 Waggoner, drilling at 1,200 feet; Herbert Oil Co.'s No. 1 Wagoner, 500 feet; Humble Oil & Refining Co.'s No. 3 Castlebury, 2,565 feet; No. 13 Castlebury, 1,250 feet; No. 15 Castlebury, 1,268 feet; No. 16 Castlebury, 587 feet; No. 17 Castlebury, 1,240 feet; No. 3 Stephens, rigging to pump at 2,075 feet; No. 16 Stephens, drilling at 1,245 feet; No. 17 Stephens, 1,400 feet; No. 18 Stephens, 370 feet; No. 21 Stephens, fishing at 2,164 feet; No. 1-C Waggoner, drilling at 2,290 feet; Key and others' No. 1 Waggoner, 2,165 feet; Kolp and others' No. 4 Waggoner, 1,425 feet; No. 5 Waggoner, 1,600 feet; No. 7 Waggoner, spudding; Lawson and others' No. 4 Waggoner, drilling at 1,250 feet; No. 5 Waggoner, 1,510 feet; No. 6 Waggoner, 300 feet; No. 7 Waggoner, spudding; Levy and others' No. 2 Waggoner (Block 14), drilling at 1,925 feet; No. 1 Waggoner (Block 4) 900 feet; No. 1 Wheeler, cleaning out at 2,056 feet; Lippard Oil Co.'s No. 1 Fluhman, show of oil at 1,798 feet; Mattylee Lippard's No. 1 Waggoner, drilling at 1,500 feet; Mattylee Lippard's No. 2 Waggoner, 700 feet; McCamey and others' No. 1 Waggoner, 1,100 feet; No. 6 Richardson, 1,000 feet; No. 7 Stephens, bailing at 2,120 feet; No. 12 Stephens, reaming at 1,045 feet; No. 16 Stephens, drilling at 1,510 feet; No. 17 Stephens, fishing at 1,025 feet; McKanna and others' No. 1 Waggoner (Section 48), fishing at 700 feet; No. 2 Waggoner, drilling at 800 feet; Maer and others' No. 1 Waggoner (Section 4), spudding; Magnolia Petroleum Co.'s No. 44 Piper, drilling at 1,265 feet; No. 48 Sumner, 680 feet; No. 1 Moore-Waggoner, 1,525 feet; Maxwell and others' No. 1 Morris, 1,460 feet; Murchison and others' No. 1 Waggoner, 2,275 feet; Panhandle Refining Co.'s No. 1 Key, 884 feet; Priddy and others' No. 4 Castlebury, fishing at 950 feet; No. 5 Castlebury, drilling at 1,175 feet; No. 7 Castlebury, 1,240 feet; Ray and others' No. 9 Bond, 2,005 feet; No. 10 Bond, 2,015 feet; Root and others' No. 1 McCrary, underreaming; Shamrock Oil Co.'s No. 1 Waggoner, drilling at 1,000 feet; Shipley and others' No. 1 Murphy, 1,100 feet; Simms Oil Co.'s No. 1 Collins, 1,150 feet; South Vernon Oil Co.'s No. 1 Zipperle, 1,050 feet; Staley and others' No. 1 Bond, 1,700 feet; The Texas Co.'s No. 1-B Castlebury, underreaming; No. 1 Owens, fishing at 1,232 feet; Texhoma & Burton's No. 1 Waggoner, spudding; Texhoma & Holmes' No. 1 Flenniken, drilling at 1,300 feet; No. 1 Thomas, fishing at 1,620 feet; Whibert Oil Co.'s No. 1-B Waggoner, spudding; Winnipeg Oil Co.'s No. 7 Bond, drilling at 2,110 feet;

No. 8 Bond, 1,820 feet; Wood and others' No. 1 McGill, 700 feet.

Archer County Drilling

Arco Oil Co.'s No. 1 Stehlik, drilling at 1,408 feet; Shappell Oil Co.'s No. 19 Jackson, 950 feet; Texhoma Oil & Refining Co.'s No. 1 Morrison, 784 feet; No. 2 Morrison, 554 feet; Atlantic Oil Production Co.'s No. 7-A Parrish, showing oil at 1,565 feet; Camp Oil & Gas Co.'s No. 4-C Wilson, drilling at 800 feet; Carter and others' No. 1 Wilson, 900 feet; Dale Oil Corp.'s No. 11 Wilmot, fishing at 1,185 feet; No. 12 Wilmot, drilling at 180 feet; Empire Gas & Fuel Co.'s No. 3-A Wilson, show of oil at 1,622 feet; Franklin and others' No. 8-B Parrish, drilling at 1,550 feet; Humble Oil & Refining Co.'s No. 1-A Parkey, 1,853 feet; Lincoln and others' No. 1 Rutty, underreaming; McCarty Oil Co.'s No. 1 Wilson, drilling at 1,100 feet; Navarro Oil Co.'s No. 1 Wilson, 1,495 feet; Norwood and others' No. 1 Carson, 1,130 feet; Oil Investment Co.'s No. 9 fee, underreaming; Payne and others' No. 1 Parrish, drilling at 1,470 feet; Waite Phillips No. 1 Woodrum, drilling, 1,630 feet; Phillips Petroleum Co.'s No. 61 White, cementing casing at 1,598 feet; No. 62 White, drilling at 1,485 feet; Prairie Oil & Gas Co.'s No. 10-A Wilson, 1,330 feet; Riner and others' No. 11 Wilson, underreaming; Riner and others' No. 18 Wilson, drilling at 1,400 feet; Scott and others' No. 6 Parrish, 290 feet; Staley and others' No. 11-C Wilson, 1,400 feet; Sun Oil Co.'s No. 1 Priddy, 1,030 feet; Texhoma Oil & Refining Co.'s No. 6-C Wilson, show of oil at 1,396 feet; No. 4-E Wilson, show of oil at 1,583 feet; McGregor and others' No. 6 Llewellyn, drilling at 560 feet; Mitcham and others' No. 1 Wilson, 1,495 feet; Waite Phillips' No. 1 Keyes, underreaming; Ross and others' No. 1 Seay, drilling at 1,675 feet; Sun Oil Co.'s No. 3 Abercrombie, casing seat gave way at 1,391 feet; No. 10 Farmer, drilling at 820 feet; British American Oil Co.'s No. 8 Rogers, 1,240 feet; Cerf and others' No. 1 Predeaux, 422 feet; Dolman and others' No. 1 Prideaux, 430 feet; Fisher and others, No. 5 Rogers, 460 feet; Fred Foster's No. 1 Andrews, 2,095 feet; Gilliland and others' No. 5 Rogers, 1,225 feet; Gwynn and others' No. 4-A Rogers, 1,320 feet; No. 4 Scruggs, 1,210 feet; Magnolia Petroleum Co.'s No. 5 Rogers, 1,260 feet; No. 6 Rogers, 440 feet; No. 7 Stampfli, show of oil at 1,345 feet; Marland Oil Co.'s No. 2 Ward, drilling at 920 feet; Mid-Kansas Oil & Gas Co.'s No. 1 Lowe, in shale and sand at 1,380 feet; Moore and others' No. 1 Rogers, drilling at 615 feet; Murchison and others' No. 6 Echols, 380 feet; No. 1 Echols, 860 feet; Norman Oil Co.'s No. 1 Goldsmith, 480 feet; Richardson and others' No. 2 Ward, 640 feet; Shamrock Oil Co.'s No. 2-B Campbell Bank, 1,150 feet; No. 16-B Richardson, 1,210 feet; No. 11-B Richardson, 1,237 feet; Shaw and others' No. 9 Hausler, 1,130 feet; Sheldon and others' No. 1 Walsh, 400 feet; The Texas Co.'s No. 1 Phillips, 150 feet; United Central Oil Co.'s No. 8 Rogers, 890 feet; Verschoyle and others' No. 1 Bouds, swabbing at 1,095 feet; White Brothers' No. 11 Kunkel, drilling at 1,183 feet; Wolfe and others' No. 1 Teague, 550 feet.

Reagan County Drilling

Big Lake Oil Co.'s No. 17 University, mudding in at 2,440 feet; No. 19 University, drilling at 2,600 feet; No. 20 University, fishing at 2,500 feet; No. 22 University, skidding rig at 2,280 feet; No. 23 University, drilling at 2,800 feet; No. 24 University, drilling up casing at 2,792 feet; No. 25 University, fishing at 2,510 feet; No. 26 University, drilling at 415 feet; No. 27 University, 125 feet; California Co.'s No. 1 University, setting casing at 3,730 feet; Hoffman and others' No. 1 University, drilling at 3,100 feet; McCamey and others' No. 1 University, setting casing at 2,820 feet; Texon Oil & Land Co.'s No. 6 Group 1 University, drilling at 2,740 feet; No. 7 Group 1 University, 2,875 feet; No. 8 Group 1 University, underreaming; No. 10 Group 1 University, drilling at 1,070 feet; No. 11 Group 1 University, 1,130 feet; No. 12 Group 1 University, 1,400 feet.

Wildcats Drilling

Hutchinson County—Dixon Creek Oil Co.'s No. 2 Smith, spudding; Panhandle Refining Co.'s No. 1 Perkins, drilling at 1,900 feet; Amarillo Oil Co.'s No. 2-B Bivens, gassing at 2,920 feet; Prairie Oil & Gas Co.'s No. 1 Shaw, drilling at 3,401 feet.

Moore County—Amarillo Oil Co.'s No. 1-A Masterson, drilling in lime at 2,360 feet.

Potter County—Amarillo Oil Co.'s No. 1 Warrick, drilling at 3,064 feet; No. 1 Bush, drilling up casing at 3,495 feet.

Carson County—American Refining Co.'s No. 1-C Burnett, drilling in shale at 1,611 feet; Crosbie Oil Co.'s No. 2 Burnett, drilling in lime at 2,247 feet; Culbertson Brothers' No. 1 Armstrong, cleaning out at 3,560 feet; Magnolia Petroleum Co.'s No. 1 Burnett, fishing at 750 feet; Silk and others' No. 4 Burnett, drilling at 320 feet; The Texas Co.'s No. 3 M. C. Burnett, in red shale at 1,310 feet.

Gray County—Anderson and others' No. 1 Beavers, drilling in lime at 2,650 feet; Clark and others' No. 1 Combs & Worley, preparing to drill in and showing oil at 2,841 feet; Danciger Oil & Refining Co.'s No. 1 Bowers, drilling in lime at 2,390 feet; Wilcox Oil & Gas Co.'s No. 1 Combs & Worley, preparing to standardize at 2,350 feet.

Wheeler County—Shedden and others' No. 1 Westmoreland, setting casing at 1,100 feet; Whittington and others' No. 3 Williams and Laycock, underreaming; Texhoma Oil & Refining Co.'s No. 1-A Jackson, drilling at 350 feet; Vaughn and others' No. 1 Krey, setting casing at 1,285 feet.

Baylor County—Grebin and others' No. 1 Anderson, drilling at 1,310 feet; Jones and others' No. 1 Bassett, 1,230 feet; McCaldin and others' No. 1 Martin, 1,628 feet; Strong and others' No. 1 Young, fishing at 1,351 feet; Dyer and others' No. 1 Cox, drilling at 1,016 feet; Moore and others' No. 2 Fancher, cleaning out at 996 feet.

Clay County—Atlantic City Production Co.'s No. 1 Scaling, fishing at 3,112 feet; Gwynn and others' No. 1 Saner, drilling at 800 feet; Lone Star Gas Co.'s No. 2 Magnolia Petroleum Co., 920 feet; No. 23 Martin, 430 feet; No. 17 Stine, 1,210 feet; Bennett and others' No. 1 Holloway, cementing casing at 1,567 feet; Mitcham and others' No. 1 Sneed, drilling at 1,520 feet; O'Neil and others' No. 1 Alcorn, 1,135 feet.

Montague County—Humphreys Corp.'s No. 2 Jones, drilling at 615 feet; The Texas Co.'s No. 1 Howard, 160 feet.

Grayson County—Clopton and others' No. 1 Thorn, drilling at 1,430 feet; Whiteboro Oil & Development Co.'s No. 1 Anderson, 1,355 feet; The Texas Co.'s No. 1 Cannon, 1,955 feet.

Kent County—Greenwood and others' No. 1 Kuteman, drilling at 500 feet.

Mitchell County—Eastland Oil Co.'s No. 1 Clark, drilling at 2,715 feet; No. 3 Keynard, setting casing at 2,700 feet; Sloan and others' No. 1 Scott, drilling at 1,206 feet; No. 6 Smart, 1,100 feet; No. 7 Smart, 1,290 feet; California Co.'s No. 1 Elder Lease 1, 2,550 feet; No. 2 Elder Lease 2, 475 feet; No. 3 Elder Lease 2, 670 feet; Thompson and others' No. 1 Adams, setting casing at 2,600 feet; West Texas Petroleum Co.'s No. 4 Miller, drilling at 1,765 feet.

Sterling County.—Co-Operative Lease & Development Co.'s No. 1 Douthit, cleaning out at 2,000 feet; Chicago Texas Oil & Gas Co.'s No. 1 Durham, drilling at 1,830 feet; Pettit and others, No. 1 Reynolds, cleaning out at 450 feet; Konawha-Angelo Oil Co.'s No. 1 Clark, drilling at 835 feet.

Coke County.—Weidler Oil Co.'s No. 1 Mims, drilling at 2,445 feet.

Irion County.—Denny and others' No. 1 Spring Creek, drilling 890 feet.

Upton County.—Campbell and others' No. 1 University, drilling at 510 feet.

Crockett County—Alidor Oil Co.'s No. 1 University, drilling at 2,765 feet; World Oil Co.'s No. 1 Powell, 2,475 feet.

Brewster County.—Green Valley Oil Co.'s No. 2 Wilson, drilling at 1,842 feet.

SOUTHWEST TEXAS FIELDS

(Continued from Page 46)

are over half a mile south of nearest production.

E. & K. Pipeline Co. has sold ats 3-inch pipe line from the field to Dale to the Sun Oil Co. which is operating it.

Miscellaneous

Frio Petroleum Co. is moving rig to No. 1 Lyle, 6 miles north of Pearsall in Frio County, derrick for which has been standing for several months.

Mid-Kansas Oil & Gas Co.'s No. 1 Jacob Hay in Medina County, at 1,607 feet, has completed the contract to go 100 feet into the Edwards and is waiting on orders from the head office.

Preston and others are rigging up No. 1 John T. and A. A. Storey in southern Bastrop County, 4 miles north of Lockhart Field in Caldwell.

Interests associated with the Lampasas-Bisbee drilling the No. 1 Haeglin in Medina County have bought 100 acres from the Ina Oil Co. near its six shallow wells in Medina, south of Hondo, and has spudded in the first test.

Scrivner and others are moving in derrick and rig to drill on the Geronimo structure in northern Guadalupe County where several major companies are protected with leases. Location is 800 feet north of a negro Baptist church there.

Humble Oil & Refining Co.'s No. 3 Kincaid in Uvalde County is drilling at around 600 feet.

John Sigmund's No. 5 McCampbell at Aransas Pass in San Patricio County, has sidetracked the lost casing and is drilling at 1,900 feet.

W. L. McClannahan has resumed drilling in No. 1 Thompson in eastern Bexar County at 280 feet and is moving in a new rig to the No. 1 Herman Lenz in Guadalupe County, the rig for which was moved to Lockhart when that field came in.

George E. Smith and associates have spudded in No. 1 Heard at Refugio 2,200 feet from one of the Pratt-Hewitt gassers.

CALIFORNIA

(Continued from Page 96)

ly acquired this property and has an excellent chance of securing production.

The Union ran into a fishing job at Rio Bravo, Section 4-29-25, and is fishing for several stands of drill pipe lost at 6,035 feet. This test has not shown a thing to date and, unless a quick recovery is made, the company may pull out of the area.

On the Kern River Bluffs, south of Bakersfield, the Pan American has just completed the rig for a second test and should spud in shortly on Section 22-28-27. The St. Helens is making hole at 4,500 feet, on Section 14-29-28, with only a very small chance of securing production. The Central Oil Syndicate, on Section 36-28-28, has not yet resumed work and, as far as can be learned, does not anticipate resumption very soon. The Main Oil Co. has just finished reaming its 5,280-foot hole on Section 28-27-24, at Wasco, and is running a 4½-inch oil string. Several minor showings have been reported from time to time by company officials but conditions are not altogether favorable for production.

Jacalitos Dome

The General Petroleum is going ahead slowly in the Snowolene's former test on Jacalitos Dome, at 4,400 feet but, due to the fact that this area is considered deep territory, nothing can be expected above 4,500 feet at least. The Fresno United Oil Co. is working with its Raisin City wildcat, on Section 23-15-18, at 5,365 feet and, since the formation is reported as a sandy brown shale, it is presumed that the showing reported a week or two ago was of a minor nature and passed out of existence. The Associated, however, is putting the finishing touches on the derrick for a test to be drilled on Section 14-15-18, and will proceed, it is reported, regardless of the outcome of the Fresno United's hole. The Associated's second venture in this vicinity is the Fresno Petroleum's former hole, which has been taken over around 3,500 feet, on condition that it will be carried down for a thorough test.

The General Petroleum twisted off some drill pipe in No. 1 Oschener, at Kettleman Hills, while going ahead at 6,407 feet, making the second mishap in a short period of time. The present formation is a barren gray sand and, while it holds nothing promising, the company hopes to be in a position to make another 1,000 feet of hole at least before abandoning. The Marland has just received an okeh on the 8¼-inch landed at 4,949 feet and will resume drilling soon on the Kettleman Hills test located on Section 12-22-17.

Field Operations

Oil field operations reported to the State Oil and Gas Supervisor show 40 new wells started, as compared with 28 during the previous week, bringing the total for the current year to date to 397, as compared with 485 at the same date last year. Of the 40 notices to drill filed this week, 8 were for wells in the Rosecrans Field, 3 at Long Beach, 2 at Huntington Beach, 9 at Inglewood, 1 each at Torrance and Brea Olinda, 1 in Orange County, 2 in the fields of Ventura County, 1 at Santa Maria, 11 in the fields of Kern County and 1 in Fresno County. There were 30 tests for water shutoff made and 14 deepening or redrilling jobs listed. Eight holes were abandoned, two more than during the preceding week. Permits were issued fore the following new wells:

Rosecrans

Location, Company, Wells—
Julian Pet. Corp.—
7-3-13 Athens 4.
7-3-13 Athens 5.
7-3-13 Athens 6.
7-3-13 Athens 7.
7-3-13 Athens 8.
7-3-13 Athens 9.
7-3-13 Marine Corp. 38.
Sentinel Oil Co.—
7-3-13 Athens 5.

Inglewood

Associated Oil Co.—
7-2-14 Vickers 4.
7-2-14 Vickers 6.
Petroleum Securities Co.—
8-2-14 Cone 5.
8-2-14 Lloyd 2.
8-2-14 Moynier 4.
7-2-14 Smith 6.
Standard Oil Co.—
8-2-14 L. A. Investment 1, 8.
17-2-14 L. A. Investment 2, 3.

Long Beach

J. E. O'Donnell—
19-4-12 O'Donnell 39.
San Martinez Oil Co.—
29-4-12 Booth Comm. 4-A.
The United Oil Co.—
13-4-13 Bixby 2-A.

Huntington Beach

Petroleum Midway Co., Ltd.—
11-6-11 Brown 7.
2-6-11 Elliott 4.

Orange County

Hoyt S. Gale—
31-5- 9 Irvine 1.

Brea Olinda

9-3- 9 C. C. M. O. Co. 97.

Seape

28-5-19 Modoc Pet. Corp. 2.

Ventura

Shell Co.—
28-3-23 Taylor 9.

Santa Maria

Rice Ranch Oil Co.—
23-9-24 Radium 1.

Midway-Sunset

36-32-23 Big Ten Oil Co. 15.
4-11-23 Calitroleum Oil & Gas Co. 4.
6-32-24 Honolulu Cons. Oil Co. 34.
4-32-23 John F. Philippi 1.
15-31-22 Manley & McGinn 13.
19-31-24 Pacific Oil Co. 13.
33-31-24 Pacific Oil Co. 19.

Devil's Den

29-25-19 C. G. Cragin & V. E. Sack 1.

Kern River

9-29-28 E. P. Thomas 4-A.
22-28-27 Petroleum Securities Co. 1.
4-29-28 Revenue Oil Co. 23.

Fresno County

14-15-18 Associated Oil Co. 1.

CANADIAN FIELDS

(Continued from Page 52)

secured and there is a prospect of the well drilling itself in.

Lethbridge District

Considerable leasing has been done, mostly by Medicine Hat interests, in the Lethbridge district, the acreage covered lying near Coutts and in the Red Coulee area west of Coutts where Imperial Oil, Ltd., drilled a dry hole a few years ago. No definite locations have been made in either area. Operators on the Canadian side are watching the deep test to be put down by the Col. R. S. Warren group close to the town of Sweetgrass, Mont., immediately adjacent to Coutts. In the Quarantine Reserve area, the McCullough-Patterson syndicate rig on Section 3-1-15w4, 2 miles east of Coutts, is being moved by Montana interests to a location in the Kevin-Sunburst Field.

In the Many Island Lake Field, north-

"A REAL OIL COUNTRY BELT"

OIL O AND G GAS

Pumping—Drilling—Compressor
Double-Stitched

BELTS

See the "O & G" Man—
it's Worth While

Manufactured by

IMPERIAL BELTING CO., Chicago

Sold by

OIL WELL SUPPLY CO.

In All Fields

Save money on still lining maintenance

Get this big book free!

NO refinery in the country can afford to be without this big book. It shows how the cost of still and boiler linings can be sharply cut.
"Refractories and Furnace Design" tells how to prevent bulging of walls and falling of bricks—how to cut heat loss through the setting—how to do away with high-priced masons for lining installation, and with the stocking of special shapes—how to make repairing easy.
The coupon brings it—free!

PLIBRICO JOINTLESS FIREBRICK COMPANY

1146 Clay St., Chicago

Mail the coupon--
to Plibrico Jointless Firebrick Co., 1146 Clay Street, Chicago—and get the free book.

Firm .....
Address .....
.....
My Name .....

O&G4—23R-RTG

east of Medicine Hat, Contractor F. H. Stover has resumed work on the Community Oil Wells, Ltd., test on Section 19-14-1w4. This test is down 2,471 feet with a crooked hole, which last season the new contractor straightened out to a depth of about 1,700 feet and the new hole is being carried down from that point. The well, which already has a commercial gas production, is being carried to the deeper horizons for oil; the outfit is running double tour.

SUBSTITUTES TEXT OF QUESTIONNAIRE

(Continued from Page 24)

creasing the efficiency of the 20,000,000 gallons of gasoline used daily, with consequent reduction in demand, by the use of gasoline dopes?

Shales

(10). Shales. It is claimed that crude shale oil can be produced in the United States at a price which will compete in the immediate future with ground oil. Definite commitments are known to be under consideration by responsible parties. In your opinion, (a) is quality of shale gasoline and lubricants satisfactory, or can these be made so? State definite instances pro or con. (b) Does the assembly of an adequate mining industry for shale operations present difficulties of more than ordinary scope?

(11). Of these several classes of processes involved in the experimental shale reduction plants in the country, which if, any, have outstanding characteristics that warrant expectation of successful competition with well oil? What are the respective advantages?

(12). What major effects on other lines of industry, and on the raw material situation (nitrates or other raw materials, for example) of this country will be involved in the growth and expansion of the shale industry?

(13). Is marketable recovery of by-products essential to economic development of shale operations?

(14). Broadly speaking, does the utilization of one or more of the petroleum substitutes mentioned, or others with which you may be familiar, offer possibilities of immediate importance in relation to the conservation of petroleum?

(15). What do you think will be the probable sequence by which these various possibilities for supplementing the domestic production of oil from wells will be realized?

(16). What measures, if any, would you care to recommend to the end that this Nation might be prepared to utilize these or other substitutes to the best advantage?"

"Economics of Oil Utilization" is the subject of another letter of inquiry addressed to the oil industry by the President's Oil Board, in pursuance to the board's general inquiry into petroleum conditions throughout the United States. Among the questions put to the industry are the following:

"As a part of its cooperative study of the oil industry, the oil board needs to ask for information on the subject of the economics of oil utilzation. Three uses of fuel oil and others distillates have taken on large importance and to some degree may be competitive both between themselves and with the higher products of petroleum. These three uses are for steam raising, for domestic heating, and in internal combustion engines.

(1). First, considering the utilization of fuel oil for steam making:

(a). What is the range of gravity of oil sold for burning in steam boiler and industrial furnaces?

(b). What part of a barrel of crude oil is sold for this purpose?

(c) What other uses compete for this same oil?

(d). How much of this can be converted into products that might command a higher price?

(e). How much of the above oil is suitable for internal combustion engines, and how much might be made suitable by further processing?

(f). At what price, as compared with coal, will oil hold its market for raising steam in (a) locomotives, (b) large steam plants, (c) general industrial furnaces?

(2). In view of the popularity of oil for household heating purposes:

(a). What is the range of gravity of each grade of distillate now sold for house heating purposes?

(b). What part of a barrel of crude oil is sold for this purpose?

(c). What other uses compete for this same fraction?

(d). How much of this fraction can be converted into products serving other purposes?

(e). In general, what relation have you found between the barrels of fuel oil required in a season and the tons of coal to serve the same place?

(3). In the light of the great promise of the internal combustion engines, using the heavier oils:

(a). With present development of oil and steam engines, what field seems to be open to oil engines where increased dollar efficiency can be expected?

(b). In generating power, what overall thermal efficiencies are obtained in similar work by burning fuel oil to generate steam for use in steam engines, and by burning direct in internal combustion engines?"

CALIFORNIA RECEIPTS AND PETROLEUM IMPORTS

Receipts of California crude and refined oils at Atlantic and Gulf Coast ports for the week ended April 18 totaled 746,000 bbls., a daily average of 106,571 bbls., against 652,000 bbls., a daily average of 93,143 bbls. for the week ended April 11 and a daily average of 90,607 bbls. for the four weeks ended April 18.

At Atlantic Coast Ports—	
Boston	70,000
New York	270,000
Philadelphia	346,000
Others	73,000
Total	670,000
Daily average	95,714
At Gulf Coast Ports—	
New Orleans and Baton Rouge	76,000
Daily average	10,857
Total Atlantic and Gulf Coast Ports	746,000
Daily average	106,571
Daily average four weeks ended	90,607

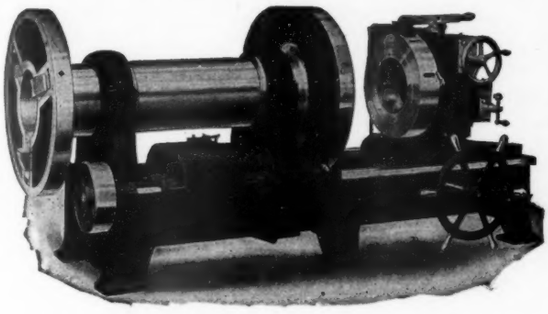
Imports of petroleum (crude and refined oils) at the principal ports for the week ended April 18 totaled 1,837,000 bbls., a daily average of 262,428 bbls., compared with 1,458,000 bbls., a daily average of 208,286 bbls. for the week ended April 11 and a daily average of 243,357 bbls. for the four weeks ended April 18.

At Atlantic Coast Ports—	
Baltimore	150,000
Boston	65,000
New York	613,000
Philadelphia	125,000
Others	145,000
Total	1,103,000
Daily average	157,571
At Gulf Coast Ports—	
Galveston district	125,000
New Orleans and Baton Rouge	642,000
Port Arthur and Sabine district	767,000
Tampa	20,000
Total	734,000
Daily average	104,857
At All United States Ports—	
Total	1,837,000
Daily average	262,428
Daily average four weeks ended	243,357

DOMESTIC EXPORTS OF PETROLEUM AND REFINED PRODUCTS

		—Month of March—		—9 Mos. Ended March—	
		1924	1925	1924	1925
Petroleum, crude	Gals.	60,876,973	43,570,302	583,596,449	480,705,457
	$	2,097,573	1,624,344	18,217,979	17,413,255
Total refined petroleum	Gals.	295,300,493	361,489,928	2,599,970,290	2,922,220,256
	$	30,432,803	40,085,918	241,481,409	288,568,589
Gasoline, naphtha and other light products	Gals.	80,308,334	121,494,195	710,407,772	905,933,979
	$	12,050,977	18,450,111	99,864,600	124,419,127
Illuminating oils	Gals.	52,122,591	81,140,295	635,715,593	637,037,329
	$	5,861,650	8,149,250	55,739,324	64,627,910
Gas and fuel oils	Gals	122,452,928	121,485,655	1,001,450,132	1,059,961,341
	$	3,915,565	4,827,978	29,244,676	38,354,011
Lubricating oils	Gals.	40,416,640	37,369,782	254,397,392	270,278,248
	$	8,594,611	8,658,579	57,132,009	60,950,411
Paraffin wax	Lbs.	29,626,808	29,012,287	267,866,081	263,866,035
	$	1,254,534	1,661,384	9,844,773	14,096,306

PEERLESS B&K DUPLEX P·D·G



Simple–Rugged

Notice the construction of this machine for threading pipe, the front housing close to the gripping chuck, every part being designed for hard and continuous service. Some of these machines have been in operation for nearly fifty years and still do good work.

The details of design have changed to meet new demands, but simplicity and ruggedness are permanent characteristics.

Catalog?

BIGNALL & KEELER MACHINE WORKS of the N. O. Nelson Mfg. Co.
Edwardsville, Illinois

PEERLESS B&K DUPLEX P·D·G

PEERLESS B&K DUPLEX P·D·G

PEERLESS B&K DUPLEX P·D·G

BIT AND JAR-STEEL

BOX-PIN-STEEL-SLIP-STEEL

UNDER-REAMER-BODY and CUTTER STEEL, DRILL COLLAR STEEL

ASCO

CAPPING and SOCKET STEEL TOOL-JOINT STEEL

SPECIAL-HIGH-GRADE

SPECIAL ALLOY STEEL **FORGING-BILLETS** **QUALITY and SERVICE**

Manufactured By

ANDREWS STEEL CO.

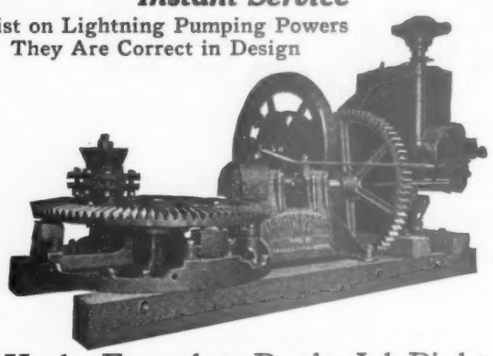
NEWPORT, KY.

LIGHTNING
OIL FIELD SUPPLIES
PUMPING POWERS, JACKS, STUFFING BOXES, ETC.

More Power—Less Vibration

Instant Service

Insist on Lightning Pumping Powers
They Are Correct in Design



Husky Enough to Do the Job Right

The reliable eccentric motion does away with jerky lines.
Built in three sizes:
No. 4—Belt Drive, weight 6,500 lbs. For deep wells.
No. 2—12 H. P. engine, weight 4,600 bbls.
No. 1—6 or 8 H. P. engine, weight 3,200 lbs.
Turntable gear is easily removable and having a broad face, coarse teeth and large diameter will stand up to the heaviest loads.
Shackle lines set low to the ground (13 in.) eliminate excessive strain.
Quickly installed.

Oil Field Supply Dept.

KANSAS CITY HAY PRESS COMPANY
Kansas City, Mo.

A Portable
Gas Core Drill
FOR DRILLING
Oil Structure

The cost of your oil drilling campaign is materially affected by the time spent in moving from hole to hole and in setting up the equipment for operation.

You may lower this cost by using our portable gas drill, a complete unit consisting of Longyear 2N diamond core drill, Fordson gas engine, and Goulds pump, all mounted on a steel truck, ready for drilling.

This outfit not only reduces moving time to a minimum but enables you to complete your drilling program more rapidly and to eliminate promptly the less desirable leases.

Our new bulletin No. 17 describes the outfit. Write for it.

E. J. Longyear Company
Minneapolis, Minnesota, U.S.A.

SAFETY IN GASOLINE MANUFACTURE AIDS EFFICIENCY, REDUCES COSTS

By C. L. Swim
*Skelly Oil Co.**

It matters not how much gasoline you make unless you make it at a profit. The business concern that makes a notable success is the one that has eliminated waste. The waste of effort and of money from unsafe practices is the least defensible for by no method of bookkeeping can it be made to show an offsetting return. Accident prevention in the oil industry is no longer looked upon as welfare work, but is considered an important factor in production. One of the largest oil companies reports that its three years of accident prevention work ending December 31, 1923, resulted in a reduction of 50 per cent in the frequency of accidents causing a loss of time and a reduction of 52 per cent in the total cost of accidents. One very large rubber company advises that two years after beginning accident prevention work its lost time accidents showed a reduction of 62.7 per cent and seven years after beginning the reduction was 86.3 per cent. The only concerns that do not believe in accident prevention efforts are those that have not tried it.

Accidents may be divided into two major classes, by machinery, through failure to properly safeguard it, and by the human element. These classifications each suggest their remedy, the first to guard properly such machinery, and the second to sell employes the safety habit and see they all stay sold. Not to exceed 15 per cent of all injuries are caused by machinery while 85 per cent, or the great majority of accidents, are due to the human element, which shows the relative importance of selling safe habits to the employes. You may guard your machinery with all the devices and still your plant is no safer than the employes who work in it.

Briefly the lines of approach for a comprehensive safety program are:

1. Physically fit and mentally alert workmen.
2. Such mechanical safeguards as are necessary to provide a safe place to work.
3. Educational and personal effort to inculcate safety habits with their attendant safe practices.

Medical Examination First

As a foundation for every safety program I would place medical examination to avoid getting those into your employ who by reason of accident or disease are a liability rather than an asset. In addition you will be able to place your men at such work as they are physically able to do and will avoid for example causing the death of a man who may be perfectly able to do most kinds of work but who would be overcome by working in a place of extreme temperature by reason of his heart action or high blood pressure. By medical examination you will find some suffering from a previous injury or disease, and more often the latter, the effect of which is that, in case they sustain a minor injury in your employ, there will develop complications not yielding to treatment, resulting in a long drawn out and very expensive case, which by the laws of most of the States you are required to pay for without having been responsible for more than the minor injury.

No machinery is dangerous except in the sense that it is easy for the employe to come in contact with it, by slipping, falling or being brought into it by auxiliary or adjacent machinery. Safe habits and practices cannot successfully be crammed down employes' throats but must be sold to them.

The new employe who has passed a satisfactory medical examination is in his most receptive mood for safety ideas. He is anxious to make good, and if at that time his foreman explains his duties and how to perform them safely, and that safe practices are a cardinal principle at that plant, there has been a very effective work performed. New men sustain injuries all out of proportion as compared to those who have been employed for longer periods. The key men are your superintendents and formen. Your program of accident prevention can most effectively be carried to the men by having meetings called by the superintendent or foreman in which these matters are discussed, unsafe practices pointed out, and safe practices emphasized. Fully as important are bulletins persistently and from various angles presenting the safety idea. Much good may be accomplished by giving particular attention to the individual who sustains frequent injuries.

Industrial Action

The operators of the Mid-Continent fields have established a safety council, carrying on its prevention work by motion pictures and bulletins. The advantage of approaching this question as an industry, as an additional effort to that of the individual operators is, that the men of the industry are reached by the motion pictures wherever they are 50 or more men, although there are only a few employed by any company. Much of our work can be done through this council more cheaply with the added advantage that new men have had some training in safety. The work of this council is fundation work only and to get real results you must have a program of your own thoughtfully and persistently carried out.

Fire prevention can well be made a part of your program. In your business explosions are in many cases the cause of the fire or coincident with it. Legislative bodies cannot be as familiar with the problems involved in manufacturing and transporting gasoline safely as you who are daily in contact with those problems, and yet do you think the Ardmore disaster of a few years ago could be repeated many times without there being an attempt made to regulate the transportation of gasoline by legislative enactment. You who make gasoline know that gasoline is safe when safely handled, but this very knowledge on your part lays upon you the obligation to set for yourselves such standards, and to so train your employes that the minimum of accidents may occur.

The effect of better guarded machinery, the installation of various safety devices, the use of equipment designed in accordance with definite safety standards, better plant layout, better housekeeping, better ventilation, better lighting, better all around working conditions, a better morale and increased loyalty on the part of employes, not only reduce accidents, but increase operating efficiency and often actually decrease operating costs.

*Before Association of Natural Gasoline Manufacturers, Tulsa.

BUYING URANIA ACREAGE

SHREVEPORT, La., April 25.—Development of the Urania Field in La Salle Parish has been practically assured by a number of big interests who plan to drill. The Standard Oil Co. has purchased five 40-acre tracts in the immediate vicinity of the discovery well; the Ohio Oil Co. has acquired 160 acres of close up leases, and Keene & Woolf have purchased two 40-acre tracts in close proximity. Several tests have been started, two offsetting the discovery well, but it will be several weeks before anything definite can be expected.

FAVORS DIESELS FOR 14 SHIPS

WASHINGTON, April 25.—Steps were taken by the Emergency Fleet Corp. to equip with Diesel engines 14 of a fleet of 18 vessels that have been designated for Diesel conversion. The action of the corporation was approved by the Shipping Board. The conversion proposed is to be undertaken by authority of an act of Congress which appropriated $25,000,000 for the purpose. Twelve of the vessels are on the Eastern Coast, one at San Francisco and one at Seattle.

INCREASED EFFICIENCY

The Reid 24-Foot Diameter, 24-Inch Stroke, All Metal Band Wheel Power

Patented September, 1913, June, 1924. Other Patents Pending

The Positive Force Feed Oiling System, which assures a constant supply of lubricating oil to all moving parts and the Dust Guards on the wheel hub and eccentrics, to prevent the entrance of grit between the bearing surfaces, are two of the features insuring the owner of a REID 24-Foot Band Wheel Power many years of uninterrupted service.

The larger wheel secures better service from the belt.

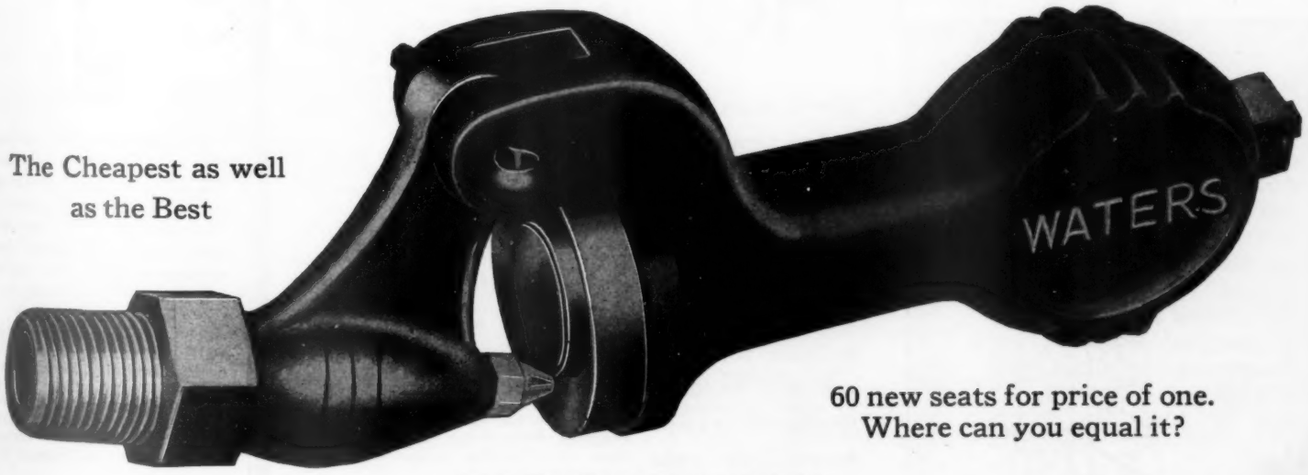
Let us tell you more about this power. Ask for Bulletin No. 29

JOSEPH REID GAS ENGINE COMPANY, OIL CITY, PENNSYLVANIA, U. S. A.

BRANCHES AND AGENCIES—Marietta, Ohio; Logan, Ohio; Newark, Ohio; Ft. Recovery, Ohio; Shreveport, La.; Charleston, W. Va.; R. B. Moore, Bolivar, N. Y.; Bradford Supply Co., Robinson, Ill.; Frick & Lindsay Co., Bradford, Penna., and Kentucky Distributors; S. R. Shoup, 708 Pacific Electric Bldg., Los Angeles, Cal.; Frick-Reid Supply Company, Tulsa, Oklahoma, and Branches. Distributors for Oklahoma, Kansas, Texas, Arkansas and Wyoming. Branch Shops, Tulsa, Okla.

WATERS' GAUGE

The Cheapest as well as the Best



60 new seats for price of one.
Where can you equal it?

SOLD BY ALL SUPPLY STORES
Distributed by

SMITH SEPARATOR COMPANY

Chestnut & Smith Corp. Bldg. TULSA, OKLA. Telephone 6221

New York Office:
Export Representative:
Oil Field Equipment Co.
30 Church St., New York
Cable Address: "Oilfield" N. Y.

Colorado Office:
434 U. S. National Bank Bldg.,
Denver, Colorado
California Office:
2041 E. 38th St., Los Angeles, California

Texas Office:
5400 Columbia Ave., Dallas, Texas
London Office:
Perkins & MacIntosh
Petroleum Tool & Boring Co., Ltd.,
25 Bishopsgate
Cable Address: "Oleborers" London

Should Women Bob Their Hair?

NYE—the Die Man
Pipe tool maker to the American Plumber and Steamfitter

Someone wrote to the fashion editor and asked if short skirts make women look shorter. He replied, "we don't know what it does to the women, but it makes the men look longer."

I met a man the other day who believes all women should bob their hair. He had me just about convinced. And then I found out he was a barber.

As far as we are concerned, if women want to bob their hair that is their business, but if you want pipe threading or cutting tools—that is our business.

If a woman bobs her hair it makes her look younger. Nye dies don't make a man look younger. They do better than that—they make a man *feel* younger. And they make him live longer—and act better.

The Nye die with its skip tooth feature,—and the Nye knurled knife blade cutter wheels—work smoother and faster than any other similar tools.

Nye thin blade cutter wheel, made to fit all standard makes of pipe cutters, and guaranteed against breakage in use. Made both in smooth and knurled edge.

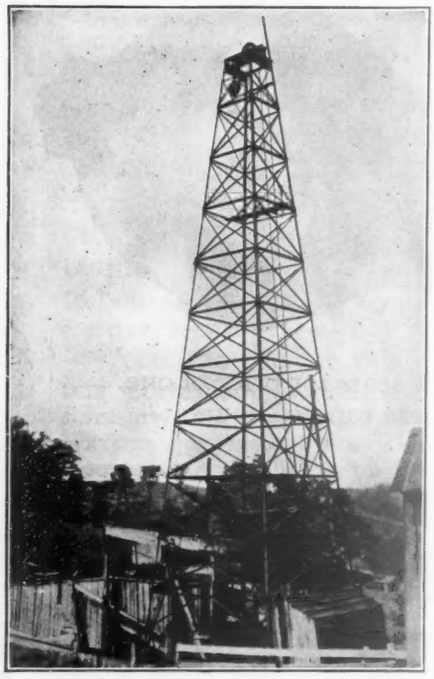
With the fine tool steel of which they are made they last longer than any other. And so does the man who uses them.

HARRY G. NYE.

THE NYE
TOOL & MACHINE WORKS
108-128 North Jefferson Street,
Chicago, Illinois

The tools you swear by and never at

O'BRIEN STRUCTURAL STEEL DERRICKS



Eleven years in use and no repair parts necessary on any O'Brien derricks. They will drill your wells and pull the pipe. Will not deteriorate, your salvage will be 100% twenty-five years hence. Your wells are your bank, why not put the best structure over them you can get.

O'Brien Steel Construction Company
Washington, Penna.
Rig Equipment Company, Sand Springs, Okla.

INCREASED EFFICIENCY REPORTED BY TEXAS CO.

In an article in the April number of The Texaco Star, house organ of The Texas Co., A. L. Beatty, president, reviews the operations and earnings of the company during 1924. The company earned $4.02 per share on its capital stock in 1924, due to economies in all departments. The volume of business increased 20 per cent and the pay roll decreased 5 per cent.

The refining department showed an increase of 43.4 in gasoline production, with an increase of only a little over 3 per cent in operating expense. Runs of crude to the refineries increased 21.5 per cent and the charge of pressure stills increased 68.9 per cent.

The producing department shows a slight decline in production for 1924, but improved its earnings by reducing expenses. "To clear the books of abandoned properties and be relieved of rental under leases where the land was no longer considered prospective," says Mr. Beaty's statement, "the department charged off $8,265,341, which exceeded its additions and therefore decreased its total investment by $2,889,105.

"Taxes are very burdensome," says the statement. "They are supposed to be coming down. But that it not true in our case. If we include the Federal income tax which the company owes for 1924 but is not paid until 1925, the total amount for the year exceeded 50 per cent of the net earnings. Gasoline tax alone amounted to $6,203,892."

The company had 2,751 producing wells at the close of 1924, an increase of 48 over 1923. These are scattered in Texas, Louisiana, Arkansas, Oklahoma, Kansas, Wyoming and Colorado. The production was 17,718,292 bbls., a decrease of 871,986 bbls. from the 1923 figures. In addition the statement shows 25 producing wells in Mexico in 1924, with 1,573,520 bbls. production, a decrease of 1,064,092 bbls.

The company ran a total of 35,919,830 bbls. of crude through its refineries during the year, an increase of 1,244,646 bbls. over 1923. It has a total of 4,624.34 miles of trunk, gathering, loops and branch pipe lines and 9,967.50 miles of telegraph and telephone lines.

In addition to its own production, the company purchased 18,997,071 bbls. of crude from other producers in the United States and 1,846,368 bbls. in Mexico.

The Texas Pipe Line Co. handled 35,188,422 bbls. of crude in 1924, a decrease of 131,895 bbls. from the figures for the previous year.

The statement shows the following gross revenue from sales in the various districts, railways sales, pipeage and other sources:

	1924	1923
Northern Trty.	$ 66,761,688.29	$ 65,096,412.42
Southern Tryt.	39,590,407.83	35,010,621.53
Western Trty..	12,513,377.12	7,462,964.54
Asphalt sales..	4,843,228.03	4,609,694.51
Railway sales.	5,161,877.94	4,786,298.23
Foreign sales..	48,055,169.90	39,425,084.57
Special sales..	2,111,056.30	4,468,031.93
Natural gas...	1,268,395.98	958,113.14
Pipeage (on oil carried for others	2,574,255.39	2,031,698.08
From other sources	9,344,738.11	5,543,838.11
Total	$192,224,194.89	$169,382,747.06

This does not include insurance claims collected, Federal tax refunds, proceeds from sale of obsolete equipment, salvaged materials, etc.

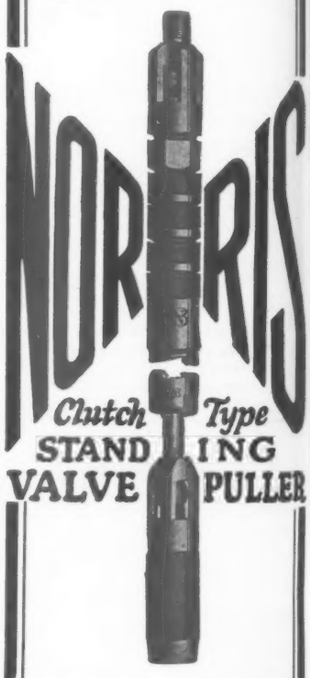
APPEAL ON SAKHALIN PREPARED BY SINCLAIR

WASHINGTON, D. C., April 25.—The Sinclair oil interests will appeal to the Moscow Court of Appeals from the decision of the Russian Soviet Court declaring null and void the concession obtained by the Sinclair Company to exploit the oil fields of northern Sakhalin.

Through its attorneys, Lansing and Woolsey of Washington, the company will contend that the decision of the lower court is illogical and unwarranted by the facts, and that the Soviet Government virtually admitted that the American company had not forfeited its conces-

Does a 600% Investment Interest You?

By saving a complete run of the rods whenever you pull standing valves, the Norris Patent Clutch-Type Standing Valve Puller pays for itself every time you use it.



True enough, the saving thus made is not a fortune, but if you pull standing valves six times a year, it represents a 600% investment—and even small investments are worth making when they pay 600%!

The design of the Norris Patent Standing Valve Puller is simplicity itself—consisting principally of a clutch which comes into engagement when the rods are given a few extra turns. The lower valve comes up every time.

In the interest of economy, equip every pumping well with this money-saver. At your supply house or direct.

Manufactured by

NORRIS BROTHERS, Inc.
Manufacturers of Oil Well Pumping Equipment
Robinson, Ill.

A Part of the Famous Barsco Products

Texas Pattern
Casing Shoe

Drive Shoes
Casing Shoes
Casing Clamps
Anchor Clamps
Gas Packing Clamps
Rotary Tool Joints
Male & Female Steel Nipples
Shoe Guides

Male & Female
Steel Nipple

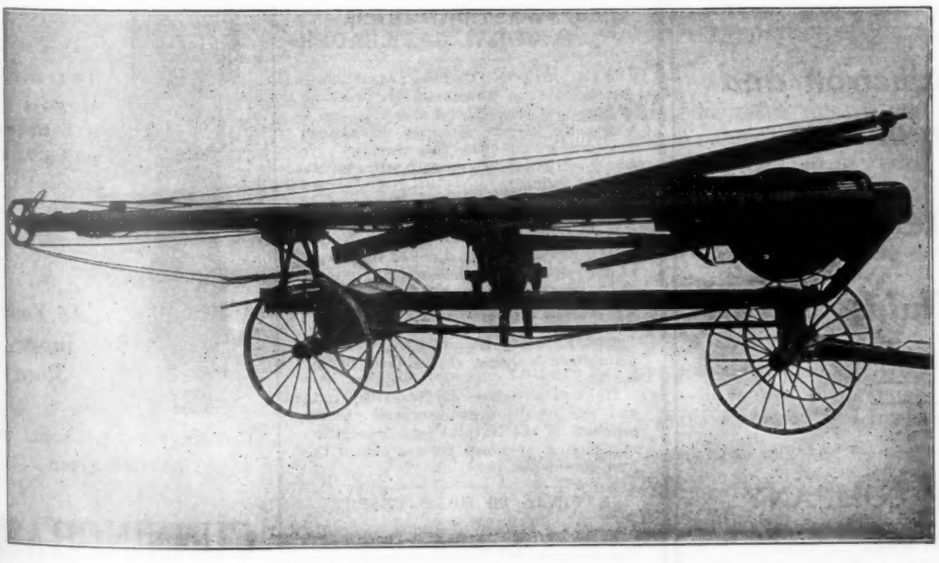
New Catalog just off the press
Write for copy

Gas Packing Clamps With Gas Outlet

Bartlesville Supply Co. of Mo.
3400 Maury Ave., St. Louis, Mo.
Mid-Continent Representatives:
B & A Specialty Company, 404 W. 1st Street, Tulsa, Oklahoma
Stocks carried by Dealers and Nichols Transfer & Storage Co., Tulsa, Oklahoma, for your convenience.

Regular Pattern
Casing Shoe

SAMSON OF OLD



Had nothing on an IRON KING pulling machine when it comes to rugged strength. Its iron and steel construction enables it to bear an immense load and stand up under the most severe strain without injury. It was properly designed, is built right, and as a result is in use in practically every oil field in the U. S. A.

If your oil field supply store will not get you an IRON KING write us direct. Where shall we send you a catalog?

THE IRON KING MANUFACTURING CO.
BRADNER, OHIO
Say you saw it in The Oil and Gas Journal

PATRICK CARBON
for Diamond Core Drilling

Expensive drilling is made economical drilling by using Patrick Carbon, correctly graded and always reliable.

R. S. PATRICK
Duluth, Minnesota, U.S.A.
Cable Address, "Exploring" Duluth

METERS

For Measuring Production and Distribution of

Oil—Gasoline—Gas

and Other Fluids

Please note change of address

PITTSBURGH METER COMPANY

General Offices and Works:

7800 Susquehanna St., PITTSBURGH, Pa.

SALES OFFICES:

New York—50 Church St.
Chicago—5 South Wabash Ave.
Kansas City—Mutual Bldg.
Columbia, S. C.—1433 Main St.
Seattle—4038 Arcade Bldg.
Los Angeles—Union Bank Bldg.

sion when Soviet officials tried to buy out its rights in Sakhalin.

Another hearing in the higher court is expected to be obtained without difficulty.

While it is known that President Coolidge and Secretary Kellogg have made a thorough study of the Russo-Japanese agreement involving Sakhalin oil, the State Department has not yet formally replied to the brief presented by attorneys for the Sinclair company.

Meanwhile the case is complicated by a British claim to a priority concession in Sakhalin, stockholders of two British syndicates having put before the British Foreign Office claims to the oil fields of northern Sakhalin, alleged to have been acquired in 1909 and 1910 under the Czarist regime.

PHILLIPS CO. DIRECTORS VIEW COMPANY PROPERTY

A special train of Phillips Petroleum Co. carrying all the directors, and many prominent stockholders made a tour of the Mid-Continent oil fields last week.

Starting from New York under the supervision of Frank Phillips, and L. E. Phillips of the Phillips Co., the train traveled to Chicago where 50 residents of the Windy City joined the party.

The first prolonged stop was Fort Worth, Texas, where the members of the party were entertained by Amon G. Carter, editor and owner of the Fort Worth Star-Telegram.

At Fort Worth, the party was joined by a group of Tulsans, including Waite Phillips, Henry McGraw and Robert P. Brewer. Leaving Fort Worth early Sunday morning, the train stopped at Holdenville, Okla., whence the party traveled by motor to the properties of the Phillips Petroleum Co. in the Smith Pool at Wewoka, and then to the Papoose Pool near Wetumka.

At Wetumka, the party again took the train, and traveled to the Waite Phillips refinery at Okmulgee, where an hour's stop was made to inspect the plant. Sunday evening the train pulled into Tulsa, where members of the party were entertained by Robert P. Brewer and Waite Phillips. At 2. a. m. Monday the train left for an inspection of the Osage properties of the Phillips Petroleum Co., and thence went to Bartlesville, where a day was spent. From Bartlesville the train began the long trip eastward to New York.

M. M. SWEETMAN DIES; NATURAL GAS LEADER

SAN ANTONIO, Tex., April 25.—Michael Martin Sweetman, 61, president of the Southern Natural Gas Co., and a nationally known authority on natural gas, died at his home here recently. He had been ill for two months, after an attack of influenza.

Mr. Sweetman came to San Antonio from Kansas City four years ago, and was the organizer of the Southern Natural Gas Co. here. He directed the laying of the pipe lines which brought natural gas to San Antonio about two years ago. He was also the first to bring natural gas to about 40 cities of the United States, including Kansas City, where he maintained a home at the time of his death.

He was a native of Rushville, Ind., and one of the organizers and charter members of the Natural Gas Association of America, of which he was one of the first presidents.

EXPECTS TO HOLD TEAPOT

NEW YORK, April 25.—The Sinclair Consolidated Oil Corp. confidently expects confirmation of the Teapot Dome lease and refutation of the charges "so loosely made," Harry F. Sinclair, chairman, says in his annual report to stockholders.

Speaking of the hearing at Cheyenne, Wyo., he said: "When subjected to the cold scrutiny of a court of chancery, inflammatory accusations so widely advertised were shown to be of the most flimsy character."

Are Your Wells Slowing Down?

Give them a new lease of life. Bring them back to normal with a

Standlee Swivel Swab

Some users tell us they are swabbing declining wells and bringing them back with the Standlee.

Sounds reasonable, doesn't it?

It's an all around swab that is winning a host of enthusiastic friends throughout the industry.

There must be a reason for it. Design and quality may be responsible. At least it's worth investigating.

At Your Supply Store

Cunningham products are painted green

CUNNINGHAM COMPANY
212 So. Norfolk
Tulsa Oklahoma
Phone 2-1727 Night Phones 3-1411 and 6954

World-Wide Demand

Here are three letters from one day's mail showing the world-wide demand for The Oil and Gas Journal:

Ohio Geological Survey, Library
Columbus, Ohio
The Oil and Gas Journal, Tulsa, Oklahoma

Recently while we were having volumes of The Oil and Gas Journal bound we discovered that the binders had removed two leaves from one number. We should like very much to replace this number by a perfect copy, providing it is obtainable. The one we desire is Vol. 13, No. 59, for May 20, 1915.

We shall appreciate if this can be sent to us.

SUSAN MARKSBURY.

Dollar Steamship Line
S. S. President Harrison
(mailed at Honolulu, T. H.)
The Oil and Gas Journal, Tulsa, Oklahoma

Enclosed please find money order for $3.50 for six months' subscription. Please mail to address below. I have added 50 cents for foreign postage. In case this is not sufficient please bill me for balance, but *in no event delay forwarding the issues at once.*

ROBERT F. KING.
care Bataajsche Petroleum Maatschappij,
Balikpapan, Borneo, Dutch East Indies.

Wm. Dawson & Sons, Ltd.
Bream's Building, London E. C. 4
The Oil and Gas Journal, Tulsa, Oklahoma

Will you kindly inform us whether it is possible for you to supply all copies of The Oil and Gas Journal from January to December 1924 complete, and if so the cost of these issues to us including postage to England.

Thanking you in anticipation of your kind attention in this matter.

WM. DAWSON & SONS, LTD.

The Oil and Gas Journal is known wherever there is oil as the World's Greatest Petroleum Publication. Its readers would not miss a single issue. Make sure of yours by subscribing now.

Order Now!

It Will Help You!

Order Blank

The Oil and Gas Journal
Tulsa, Okla.

You are hereby directed to mail The Oil and Gas Journal to me for.....year. Enclosed find remittance $.....

Classify my interests as checked by me.

.....Producing .....Refining
.....Equipment .....Marketing

Name.....

Address.....

City.....

U. S. or Mexico	
One Year	$6.00
Six Months	3.00
Three Months	2.00
FOREIGN	7.00

Approved for Field and Refinery Service

Stanley

Solid Woven Cotton Belting

Are You a Belt Expert?

If you are, if you get right down to fine points and make a careful study of belting and its service in the oil fields, you will come to the same conclusion as the man that says, "STANLEY" and sticks to it.

There's many an outfit using STANLEY—and no belt expert within miles of them. They have tried other belts—and 'nuff said, all they *need* to know about belts is the word "STANLEY."

The oil man's belt for the oil man's job

Stanley Belting Corporation

New York
W. R. Tucker
5311 Richard Ave.,
Dallas, Texas
Telephone H6525
T. R. Bartlett,
P. O. Box 909
Tulsa
Phone Dial 2-7283

Chicago
On permanent display at Tulsa Industrial Exhibition

STANLEY BELTING
MADE IN SCOTLAND

Toronto
Pacific Coast Rubber Co.
316 Mission St.,
San Francisco, Cal.
Mountain States Rubber Co.
1238 Broadway,
Denver, Colo.

If You Use

Commercial Flour Sulphur

We can supply you to your advantage
Write us concerning your requirements

Texas Gulf Sulphur Company
(Incorporated)

General Offices
41 East 42 Street, New York

Sulphur Deposit and Plant
Gulf, Matagorda County, Texas

PRODUCTION OF KEVIN-SUNBURST BY COMPANY

The total production of the companies operating in the Kevin-Sunburst Field, Toole County, Montana, from the opening of the field to January 1, 1925, is given below. The production of a few companies is omitted because it was very small, and this production is included with the oil used for fuel. The production of the Metzenbaum Oil Syndicate and the Potlach Oil & Gas Co. is estimated. The table was made up by the Northern Oil Information Bureau, Shelby, Mont.

KEVIN-SUNBURST PRODUCTION
From Discovery of Field to January 1, 1925

	Bbls.
Ohio Oil Co.	573,796.82
Homestake Exploration Corp.	168,141.86
Wait Oil Co.	11,113.00
Western Petroleum Exploration..	82,535.59
Franklin Oil Co.	1,848.00
Mid-Northern Oil Co.	170,901.86
Beardslee et al	22,602.42
Carter Oil Co.	4,670.00
Gordon Campbell Oil Co.	13,341.35
Mutual Oil Co.	114,322.10
Hogan Oil Co.	28,164.00
Kewanee Oil Co.	2,739.26
Hesla Oil Co.	18,387.98
Waconia Oil Co.	8,841.54
Monticello Oil Co.	14,652.65
Rochester-Anoka Oil Co.	7,398.55
Wells Oil & Gas Co.	460.00
Buffalo Oil & Gas Co.	3,581.00
B. C. Montana Oil Co.	13,731.67
Beaver of Montana Oil Co.	3,258.67
Sylvester Oil Co.	14,191.50
Treasure State Oil Co.	1,232.24
Three-in-One Oil Co.	1,096.00
California Oil Co.	51,254.00
Securities Oil Co.	5,955.00
Big West Oil Co.	9,200.00
Whitman-Sunburst, P. L. R. O.	32,175.51
Vanmeer Oil Synd.	11,748.51
Queen City Oil Co., P. L. R. O.	79,001.80
Crumley & McKnight-Sunburst, P. L. R. O.	109,824.00
Shoshone Oil Co.	133,436.53
International Oil Syndicate	13,027.38
Newton & McMurray-Sunburst, P. L. R. O.*	2,221.00
Canadian-American Oil Co., P. L. R. O.	6,562.00
Montana Giant Oil Co., P. L. R. O.	1,152.00
Sweeney Oil Co., P. L. R. O.	2,829.00
Red Deer Oil Co., P. L. R. O.	1,822.00
Wyomont Oil & Ref. Co., P. L. R. O.	6,401.00
Oil Producers Synd.	15,315.00
Regal Oil Co., P. L. R. O.	2,694.00
Sweetgrass Ltd., Oil Co., P. L. R. O.	9,048.00
Seattle-Foster Oil Co., P. L. R. O.	13,961.00
Wallace Oil Co.	2,000.00
Dakota-Montana Oil Co.	2,000.00
Elliott et al, P. L. R. O.	729.00
Hecla Oil Co.	1,000.00
Sunburst Oil & Gas Co.	10,159.72
Johnson Synd.	9,496.00
Potlach Oil & Gas Co.	3,524.00
Metzenbaum Oil Synd.	2,000.00
Allowed for fuel, etc.	100,000.00
Total up to Jan. 1, 1925	1,917,544.51

*Pipe line runs only.

COURT ORDERS PROPERTY SOLD

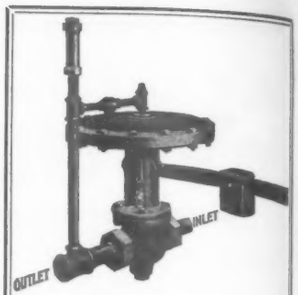
The United States District Court at Wichita Falls, Tex., in the case of Roxana Petroleum Corp. vs. North American Refining Corp., has ordered to be sold the properties jointly owned by the parties to the case, comprising about 3,600 acres of proven leases in the heart of the South Bend Oil Field in Young County, Texas, with 24 producing oil wells, one gas well and a large amount of equipment and personal property, including powers, portable tools, well equipment, water pumping plant, water and oil pipe line, tanks, buildings, fences, etc. Among the property ordered sold is a complete telephone line extending from Graham to South Bend. The court's order appoints W. H. Sanford, attorney of Wichita Falls, as master commissioner to sell the properties at public or private sale, either as a whole or in separate parcels, and provides that the sale shall be made and reported to the court by June 10.

LIGNITE DISPLACES OIL

AUSTIN, Tex., April 25.—Although fuel oil has proved satisfactory for heating State institutions in Texas, lignite will replace it because of the great quantities of the latter fuel and its consequent cheapness.

OIL SHALE IN INDIANA

LOUISVILLE, Ky., April 25.—Shale beds bearing oil in what is described as "paying quantities" have been found along a 26-mile strip extending from New Albany, Ind., to Corydon, Ind., Dr. A. W. Homberger, head of the University of Louisville chemistry department, an-



Entire Safety-

Regardless what the inlet pressure, up to 500 lbs., and it regulates at one reduction to the lowest pressure desired.

Fulton House Regulators

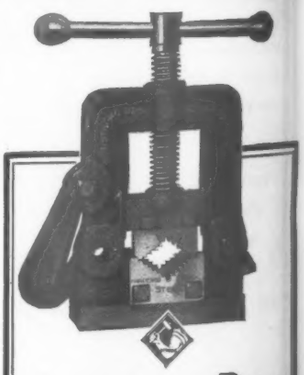
ALL house regulators are, of course, designed to reduce to a low pressure and are especially adapted for use in supplying private dwellings, whether connected to a high or low pressure service. But, there is practical perfection in every inch of the FULTON HOUSE REGULATOR.

When used for extreme high pressure (say from 100 to 500 pounds), where other regulators have been blown to fragments, or failed to work at all, we have never had an accident. Hundreds of these regulators are in use at isolated houses in the gas field, where gas is taken direct from the wells or high pressure lines.

Remember, that the FULTON HOUSE REGULATOR is only ONE member of the Chaplin-Fulton line of gas governors. It is well to bear in mind, when checking over your distribution system, that every member of the Chaplin-Fulton line is made to escape the defects you always find revealed after the winter's work.

Let us know what you need and we will quote you on the Chaplin-Fulton governor that fits.

The Chaplin-Fulton Mfg. Co.
Organized 1884 — oldest builders of gas regulators in the country. Built in all sizes, from 1 inch to 24 inches; for all service, 1 oz. up to 1,000 lbs. pressure to square inch.
28-34 Penn Ave., Pittsburgh, Pa.



Armstrong Bros.
PIPE VISES
IMPROVED DESIGN
GRIP TIGHT STAY RIGHT
Write for free catalog
ARMSTRONG BROS. TOOL CO.
330 No. Francisco Ave., Chicago, U.S.A.

The Cross Cracking Process

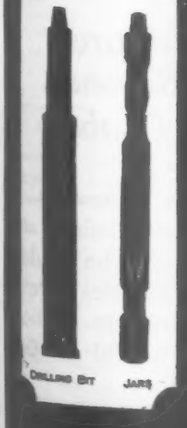
How many refiners do you know that have purchased cracking processes for direct cracking of Residual Fuel Oil?

How many of these refiners have since put in tube stills to reduce this residual oil or are now making a gas oil cut from their crude stills to feed the so-called residual fuel oil cracking plant?

THE M. W. KELLOGG CO.
90 West St.
New York City

Branch Offices:
700 Baltimore Ave., Kansas City, Mo.
19th & Harrison St., San Francisco, Cal.
304 Lane Mortgage Building, Los Angeles, Cal.

LARKIN
DRILLING AND FISHING TOOLS



THE LARKIN LINE includes:

Patent Hook Wall Packer—strongest, safest and most simple self-supporting wall packer on the market;
Special Gas Anchor Packers—with adequate protection of rubber for lowering in well under pressure;
Special Packers—for all types of special services;
Patent Improved Sand Pump—20 feet long, flush outside, of uniform, Cold-Drawn "SHELBY" Seamless Steel Tubing.
Never-Slip Pipe Grips—least expensive, swiftest and simplest device made for putting in casing.

LARKIN SERVICE includes:

Large stocks, ready for prompt shipment, of all packers known to the trade.
Packers built especially to suit particular requirements.
Complete line of Drilling and Fishing Tools for sale and for rent.

See *The Larkin Line* at any of the leading supply stores.

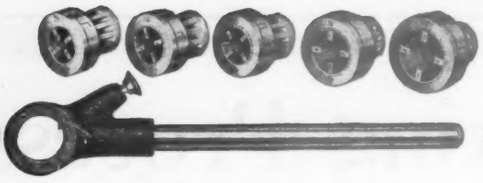
LARKIN & COMPANY
Butler, Pa., U. S. A.

Our new Bulletin No. 27 describes *The Larkin Line* Ask for it now.

SAND PUMPS

LARKIN'S IMPROVED SAND PUMP PATENTED

PACKERS



A "TOLEDO" TOOL

That Gets the Corner Job Easily.

The "TOLEDO" No. 00 ratchet tool for threading ⅛" to ¼" pipe is "JUST RIGHT" for these sizes.

It is so light it can be carried in the pocket, and so compact it reaches the out-of-the-way job easily and cuts perfectly true tapered threads, assuring tight joints.

Dies are removable and may be reground when dull, or replaced at small expense.

It is the tool you need for threading that small pipe.

Your jobber can supply you, or a postcard to us will bring you complete details and prices.

Just a snap of the Pawl and Die Heads are changed instantly

Buy by Comparison and You'll Buy a

"TOLEDO"

THE TOLEDO PIPE THREADING MACHINE CO.
Toledo, Ohio
NEW YORK OFFICE, 50 CHURCH ST.

It's worth changing to

ALLIGATOR

TRADE MARK REG. U.S. PAT. OFFICE

STEEL BELT LACING

Flexible Steel Lacing Company
4671 Lexington St., Chicago, Ill., U. S. A.
In England at 135 Finsbury Pave., London, E. C. 2

Why Some Men's Belting Lasts Longer

The outstanding feature of Alligator Steel Belt Lacing is its method of compressing the belt end. The teeth are clinched down flush with the surface of the belt, each tooth having a vise-like grip.

The belt end is protected in a grip of steel. Alligator Steel Belt Lacing is on the "approved" list of leading manufacturers. Men who use it learn to expect long, uninterrupted service from their belting.

Sold by leading wholesalers and retailers the world over.

FRACTIONATION WITH PRESSURE STILLS

(Continued from Page 109)

matic." Provisions have been made on the by-pass line to regulate the pressure by needle valves, and also remote control from receiving house, in case of fire or accident to dump the system, and release the gas pressure, to light coil.

The functions of the respective fractionating towers is to perform the "art" of fractional condensation which is accomplished by direct contact with the spiral chemical tile, and radiation from external shell, which causes a reflux action of the vapors.

Light Vapors

The light vapors, uncondensed, pass on out above, through vapor line, to radiator where the vapors are subjected to indirect cooling by surface contact, with the cooling surface of a bank of tubes. The action is very effective which causes the heavy molecules of the less volatile constituents to descend, to the lower part of the tower, where they further descend, through run back line to the lower tower to become an effective direct absorption and cooling media, for the ascending vapors traversing the system.

The uncondensed vapors, or more volatile constituents, pass out from the radiator of tower No. 4 through line "Q" to condenser coils "R" then through running line "T," to drum "6" then through meter which records the performance of the still thence onto storage. This product, being termed pressure distillate, which necessitates chemical treatment of 2 pounds of (H_2SO_4) sulphuric acid and the usual water wash. It is then steam stilled which is the most effective and less expensive procedure giving the best results.

The heavy, or uncondensed vapors, which form in lower section of tower No. 4, being the less volatile constituents of the fractional condensation action, within this respective unit, accomplished by the absorption action of the chemical tile.

The condensate leaves this tower through regulator or trap, as shown in illustration, to heavy condenser coils "5" thence to running lines "t" to drum "7" then through meter, to reflux pump, or storage depending on the operation to which the distillate is desired.

This distillate is used very effectively as a direct cooling media in fractionating tower No. 3 or is run to storage to be sold as a stove distillate. The illustration of the pressure stil as presented is considered one of the mose complete and efficient stills on the market today.

The pull over lines and facilities for dumping the system, are very conveniently operated and the equipment is very efficient for this purpose, beinge quipped with remote control valves. The accurate control of the temperatures of this still was attained by using sensitive automatic equipment. Hot oil pumps were used for recirculating hot oil. The series of tubes used in the still were of the seamless drawn type of No. 4 and No. 6 gauge. The heavier gauge, being subjected to direct heat. The reaction chamber, is of riveted construction and very efficiently manufactured, and the degree of safety is assured by the designated use of quadruple butt joint construction, and the further precaution of welding the joints and rivet heads.

The use of "tube towers" packed with chemical tile, has been largely instrumental in making possible the successful operation of the installation. The application of proper "technology" in the development of fractionating towers, has brought about the increased yields which every refiner is desirous of obtaining.

Quite a novel installation as presented in diagram 2, has produced extraordinary yields, for the design of the equipment, attaining 36 to 40 per cent of specification gasoline. The design of the towers is unique, and the performance of the equipment, has been very favorably commented upon, due to the yields attained.

Increase Your Production

Shoot Your Wells

Call any of these men and have your well shot by an expert using the best material.

OKLAHOMA

Tulsa Office—2-6743.
Garage—S776.
D. A. Koons—2-6284.
W. H. Swartz—7441.
J. A. Balcam—7441.
Willis Hill—7889.
C. C. Eshelman—2-4864.
W. E. Gibson—2-1516.
BARTLESVILLE—Robt. Camblin, 21.
DRUMRIGHT—Chas. Thiret, 424.
CLEVELAND—Gary Young, 154.
OKMULGEE—George Eba, 634.
THREE SANDS—W. F. Knobe, 826 F23.
WEBB CITY—Robt. Woods, 26. (BURBANK)
CROMWELL, OKLA.—R. C. Woods, Phone No. 53.
STROUD, OKLA.—Gary Young.

TEXAS

BRECKENRIDGE — Roy Richardson, 127.
RANGER—J. F. Tennyson, 126.
GORMAN—P. W. Burdette, 159.
COLORADO, TEXAS — James Dailey, Phone 125.

KANSAS

EUREKA—L. R. Hyer, Phone 508.

We also operate stations at Bowling Green, Glasgow and Owensboro, Ky.

The Eastern Torpedo of Ohio Co
412 Palace Bldg.
Tulsa, Okla.

GURLEY

The Oil Man's Standard in
ENGINEERING INSTRUMENTS
Since 1845
W. & L. E. GURLEY Troy, N.Y.

Assured Beyond Doubt

are the thousands of Producers, Refiners and Marketers who regularly read America's Greatest Petroleum Publication—The Oil and Gas Journal.

Truth
Dignity
Character

BAKER CASING SHOE CO.
Box 264 F Huntington Park Sta. LOS ANGELES, CALIF., and Box 239 F COALINGA, CALIF.
MANUFACTURERS AND DEALERS
Oil Well Specialties for Advanced Methods
Practical and Dependable

BAKER
Anchor Wall Packers
Baker Casing Shoes
Bridge Builders
Cement Retainers
Cement Plugs
Clean-Out Bailers
Dump Bailers
Die Nipples | Water
Die Collars | Tight
Gas Traps
Hinged Spiders
Heaving Plugs
Pitman Ends
Plain Casing Shoes
Regular Hook Wall Packers
Release Hook Wall Packers
Rotary Bits Baker Type
Rotary Hole Guides
Rotary Shoes
Rotary Tool Joints
Rotary Wall Hooks
Split Shoe Guides

All Supply Houses or Direct

Mid-Continent Representatives
B & A Specialty Company.
404 West First Street
Tulsa, Oklahoma

WESTERN BANK SUPPLY CO.
Manufacturing Stationers
High-Grade Office Furniture
Filing Cabinets—Safes
Log Books Township Plats All Standard Forms
Lithographing Embossing
Engraving Printing
"THE HOUSE OF QUALITY"
117 West Main St. 4th and Boston
OKLAHOMA CITY TULSA, OKLA.

Capital Abstract & Realty Co.
W. S. Bell L. B. Norton
J. F. Patterson
Okmulgee, Okla.

DAWSON TOWEL SUPPLY
Aprons, Towels, Jackets for Rent
Towel Service for Office $1.50 Mo.
Phone 9985 Tulsa, Okla.

Dickey-Ashby-Fountain Co.
General Insurance
Derricks, Tanks and Contents Insured
1114 Atlas Life Bldg., Tulsa, Okla.

GEO. W. HENRY, Printer
"Better Printing"
Phone 2-0238
510 S. Elgin Tulsa, Okla.

LAFE SPEER ABSTRACT CO.
General Abstractors
J. A. Boyd, Pres. and Mgr.
11 S. Park St. Sapulpa, Okla.

Place your order for Ice with the
TULSA ICE CO.
3-0012, 4 N. Detroit, Tulsa, Okla.

RESIDUE GAS SUPPLY FOR PLANT OPERATIONS

(Continued from Page 64)

on a settled basis, by which time gas engines have replaced steam engines at the wells or powers have been installed, making an even greater reduction in the fuel requirements. After this normal operating basis has been reached, the fuel requirements of a lease are practically constant for its profitable life.

Residue Supply Reduced

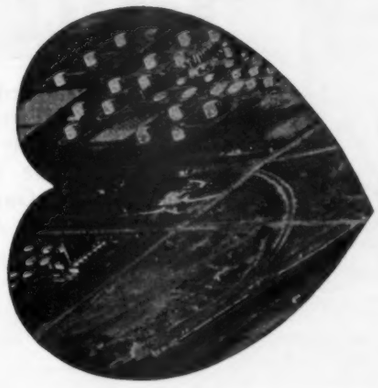
Although the lease resquirements may have thus been reduced from the volumes originally required for operation, the supply of residue gas remaining from the gasoline plant has decreased in even more rapid ratio. In the first place, there is usually a large decline in the production of casinghead gas. Second, the gas usually tends to become richer, resulting in greater diminution in volume, due to gasoline extraction. Third, as the lease becomes older, vacuum is ordinarily required, necessitating the use of additional fuel for operating vacuum equipment. These principal reasons, with other minor causes, greatly reduce the supply of residue gas remaining after gasoline extraction and plant use. It therefore frequently happens that this volume declines to a point below that required for the regular operation of the leases from which the plant obtains its casinghead gas supply.

Practically all contracts provide that the producer may reserve his rich gas for fuel purposes for the operation of the lease, if the supply of residue gas is insufficient. If any reasonable means can be found for avoiding this condition, it is an economic waste to use the rich gas for fuel. It directly reduces the income to the producer and takes away the raw material from the natural gasoline plant. In order to protect his supply of raw material, the gasoline plant operator has, in numerous cases, purchased dry gas to make up for this deficiency in the supply of residue gas. In the beginning, this was not such a very great burden on the gasoline producer, because the additional amount required was small at first, and the prices for gasoline in earlier years were relatively high and the prices for dry gas lower than at present. With the ever increasing need for larger supplies of dry gas and the higher cost of this gas, combined with low prices for his product, the natural gasoline plant operator has been facing an increasing burden.

Need for Data

In such cases, where the contract provisions guarantee no more than the residue gas remaining after gasoline extraction and plant use, the gasoline plant operator has very rightfully asked the producer to bear the cost of such excess gas as must be supplied to meet the producer's fuel requirements on his lease. It is apparent that the volume remaining will vary with the quality of the gas and with the particular fuel needs of the plant in question. It is therefore necessary, in order to make an equitable charge against the producer, to have sufficient data to show the percentage which will remain under different conditions. Information on this subject has been generally vague.

As a number of gasoline plant operators had occasion to require the data, it was felt advisable that a series of tests be undertaken under the auspices of the Association of Natural Gasoline Manufacturers by a number of different operators covering various qualities of gas, from the leanest to the richest, normally utilized in natural gasoline plants. A committee was appointed in January, 1924, consisting of Messrs. J. H. Boyle, Emby Kaye, E. L. Peck, F. E. Rice, A. J. Schlosser and L. F. Bayer, chairman. Plants were selected covering all qualities of gas. The type of plant, whether compression or absorption, its equipment and approximate size, were also considered, so that those finally selected covered as representative a field as possible. At some few plants originally selected, it was later found impossible to make the tests, but in spite of this, tests were com-



Our Five Acre Plant located in the heart of the refining district of the Mid-Continent. One reason every employe knows how refining equipment should be built.

Tulsa Boiler & Machinery Co.

SHOPS LOCATED AT
WEST TULSA

P. O. Address
Box 1963, Tulsa

Phones
33000 and 9919

How About Next Week?

Are you certain that you will receive next week's issue?

Renew your subscription now and you will be absolutely sure of getting your Journal every week.

The Journal is the "trade mark" of the progressive men in the Industry. Keep it handy at all times. It will help you.

The Oil and Gas Journal

"America's Greatest Petroleum Publication"

STRUCTURE DRILLING
Contractors With
The Diamond Core Drill
Wire or write us your wants
Diamond Drilling & Exploration Co.
Pittsburgh, Pa.

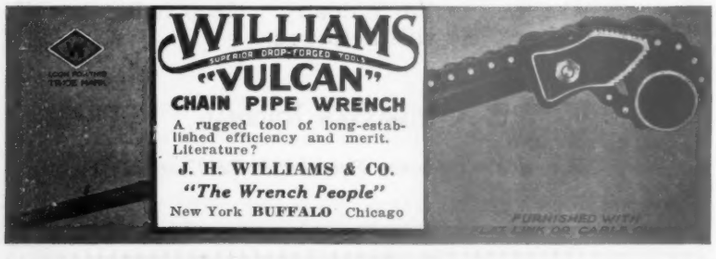
The Gott Water Can
A Better Planned Water Can—for the Oil Fields. Insures cold drinking water at all hours. Made to stand hard usage, Galvanized, GUARANTEED. All sizes.
Order thru your Supply House
The
H.P. Gott Mfg. Co.
Winfield~Kans.

MYERS SELF-OILING BULLDOZER POWER PUMPS

Like all other Myers Products, Myers Self-Oiling Bulldozer Power Pumps stand the acid test from a sales and profit standpoint just as they do from a service standpoint. Fashioned and built on fifty years of pump building experience, their qualities in both design and construction as well as those of their many exclusive improvements assure lasting satisfaction. Twelve sizes for shallow service—five sizes for deep service—capacities up to ten thousand gallons per hour—twenty-four hour operation, day in and day out, without care or attention. Your inquiry is solicited.

THE F. E. MYERS & BRO. CO. Ashland, Ohio
ASHLAND PUMP AND HAY TOOL WORKS

QUALITY
STEEL CASTINGS
At the Right Price Furnished Promptly
ST. LOUIS STEEL CASTING CO.
100 Malt St. St. Louis, Mo.



Biggest In America

The Oil and Gas Journal Classified Wants Section is the greatest petroleum publication Classified Section in America.

It was elevated to its position of esteem by the men in the industry because of its absolute merit in helping them.

The Classified Wants Section is read in all the oil fields, refineries, pipe line stations, gasoline plants, supply houses and business offices.

This gives you a splendid opportunity to place your wants before the entire industry at a most reasonable cost.

Be sure to read the Classified Section every week. IT WILL HELP YOU.

THE OIL AND GAS JOURNAL

pleted at nine plants. At one of the plants, the fuel volume could not be determined, and at another the conditions were not representative of usual practice and the fuel consumption was much higher than the usual consumption for the size of the plant and quality of gas handled. Data for fuel consumption has therefore been confined to seven plants.

The volumes reported at the plants were, in each case, measured at 60 degrees Fahrenheit, and 4-ounce pressure base with the proper dedeuctions to reduce to air-free volumes. This fact must be kept in mind in interpreting the results, as plant yields are frequently considered per 1,000 feet of average inlet gas, including air. As it was necessary to reduce all volumes to a comparative basis, it was considered best to make them on the air-free basis. On very rich gas, where the air percentage is frequently high, due to high vacuum carried on the wells, a plant yield of 12 gallons on the gross volume might, when corrected to air-free volume, be 16 or 18 gallons per thousand feet.

Measurements Recorded

The principal volumetric measurements recorded were the inlet gas, the stripped gas leaving the high pressure accumulators in compression plants or leaving the absorbers in absorption plants, and the stripped gas from the recompressor system, if any, where not included in the previous measurement. The net production of natural gasoline loaded, adjusted for changes in stock, was used to determine the yield in gallons per thousand, which therefore represents the yield as finally loaded in tank cars. The fuel requirements for operating the compressors, vacuum pumps, boilers, stills and auxiliary equipment were also recorded. In most cases the data covered the plant operation for an entire month.

As frequently occurs in such investigations, various delays were encountered, in most cases due to the difficulty of installing meters to determine the fuel requirements and the stripped gas from the accumulators or absorbers. In practically every plant, it was necessary to make installations for this purpose, as these volumes are not ordinarily recorded. It was not only necessary for the companies involved to spend considerable time and money to obtain the information, but in a number of cases it was found necessary to interrupt normal operation temporarily in order to make the meter installations.

What Curves Show

The essential data obtained from these tests have been plotted as three curves which are shown on one chart. The vertical scale of this chart indicates gas volume in percentage of casinghead gas, which is the original inlet volume. The horizontal scale of the chart is marked in gallons per thousand feet and indicates the net yield of the original casinghead gas. The three curves are plotted on the same scale. The first two curves shown by dot and dash lines are plotted from the following condensed data resulting from the tests, and the third curve is derived from them.

Plant	Net Yield of Casgd. gas (Air Free) g.p.m.	Percentage of Inlet Gas Residue after gasoline extraction but before plant use	Total Plant Fuel requirements
A	1.17	86.5%	8.2%
B	1.94	85.3	...
C	2.66	92.7	10.1
D	3.06	91.8	15.1
E	3.57	70.0	...
F	3.81	74.8	23.1
G	7.70	52.9	24.7
H	10.00	27.6	40.3
K	17.33	26.4	48.6

The first curve shows the volume remaining after extraction of gasoline, but before the plants own fuel requirements are satisfied. This volume is the total volume of stripped gas leaving the accumulator tanks or absorbers, including any stripped gas from the recompressor system. At a theoretical zero yield of gasoline, the volume remaining would, of course, be 100 per cent so that this point marks the beginning of the curve which declines regularly with increasing richness of gas. The volume remaining, as indicated by the average curve drawn through the nine points determined by these tests, gives somewhat lower re-

For AMBULANCE Service
PHONE 3-7111
MARTIN FLEMING UNDERTAKING CO.
Prompt and Efficient Service
110 W. Ninth Tulsa, Okla.

Northern Oil Information Bureau
Shelby, Montana
Complete weekly drilling and operating report of Kevin-Sunburst field mailed to any address, $10 for four reports. Maps and logs for sale. Best of references. We maintain geological, land and field deparments, all in expert hands.

NEW OLNEY DISTRICT MAP
JUST OUT
Covers an area in Archer, Young, Throckmorton and Baylor Counties, Texas, approximately 21 miles east and west and 13½ miles north and south and includes the Swastika, Harmel, Ragle, Carey and Peters pools. Scale, 2000 feet 1 inch. On cloth, $7.50; paper, $4.50.
Write for catalog of other maps.
HEYDRICK MAPPING CO.
Wichita Falls, Texas

Clive M. Alexander
CONSULTING ENGINEER
Petroleum Refineries and Natural Gasoline Plants
502 Cosden Bldg.
TULSA, OKLA.

M. M. GARRETT
CONSULTING GEOLOGIST
602 City Nat'l Bank Bldg.
Wichita Falls, Texas

F. B. Porter, B. S., Ch. E., President
R. H. Fash, B. S., Vice President
THE FORT WORTH LABORATORIES
Field gas testing. Analyses of oil field brines, gas, minerals and oil
828½ Monroe St., Fort Worth, Texas

WRITE FOR OUR FREE BOOK ON
PATENTS
MUNN & CO.
New York
361 Woolworth Building
514 Scientific American Bldg., Washington, D. C.
Chicago, Ill.
403 Tower Building
856 Hobart Building
San Francisco, Cal.

PATENTS OBTAINED FOR INVENTORS
JACK A. SCHLEY
U.S. PATENT ATTORNEY
305 INTERURBAN BLDG., DALLAS

W. G. MATTESON
CONSULTING GEOLOGIST
Specialist examinations and appraisals Mid-Continent and Gulf Coast Oil Properties
814 Texas State Bank Bldg., Fort Worth, Texas
Box 471, G. P. O., New York City

F. JULIUS FOHS
OIL GEOLOGIST
1320 Kirby Bldg., Dallas, Tex.
818 Kennedy Bldg., Tulsa, Okla.
and 60 Broadway, New York
Cables: Fohsoil
Codes: Bentley & McNeil
No professional work undertaken

William H. Foster W. A. Reiter
FOSTER & REITER
CONSULTING GEOLOGISTS
19th Floor, Magnolia Bldg., Dallas
Atlas Life Bldg., Tulsa

WALTER STALDER
OIL GEOLOGIST
Crocker Bldg.,
SAN FRANCISCO, CALIF.

FRANK C. GREENE
CONSULTING GEOLOGIST
Exchange Natl. Bank Bldg., Tulsa, Okla.
Office Phone 2-4589
Residence Phone 3514

V. H. McNUTT
CONSULTING GEOLOGIST AND APPRAISER
Specializing in Northern Oklahoma and Southern Kansas Fields
TULSA, OKLA.
Rooms 404-405 Commercial Bldg.

C. W. WASHBURNE
GEOLOGIST
3 Rector Street New York

E. J. LONGYEAR CO.
MINING ENGINEERS AND GEOLOGISTS
Diamond Core Drill Manufacturers
Diamond Drilling Contractors
MINNEAPOLIS, MINN.

EDWIN B. HOPKINS
CONSULTING GEOLOGIST
25 Broadway
NEW YORK

W. L. GOMORY
CHEMICAL ENGINEER
Consulting Petroleum Technologist
INVENTOR GOMORY CRACKING PROCESS
Licenses Solicited
Refinery Design
Peoples Gas Building Chicago

JOHN B. KERR
PETROLEUM GEOLOGIST
Phone Garfield 4734
601 BALBOA BLDG.
SAN FRANCISCO, CALIF.

HARRY F. WRIGHT
GEOLOGIST
Geological Examinations
Valuations for Tax and Financing
206 So. Cheyenne TULSA

sults than would be obtained from a mathematical computation for the conversion of gasoline vapor to liquid. This theoretical figure will not be realized in plant practice, however, due to various gas losses which occur in all operating plants. Of these, the principal gas losses are piston rod stuffing box leakage, compressor and tank safety valve leakage and gas loss due to blowing of oil separators. It will be noted that the points given for plants C and D are further off the curve which has been drawn as the average, than are the points for the other plants. The reduction in gas volume indicated by the data taken at plants C and D is less than that which would be mathematically computed from the conversion of vapor to liquid. This fact has been considered in drawing the average curve, which, as noted above, must pass through the point corresponding to 100 per cent volume at zero yield.

Fuel Requirements

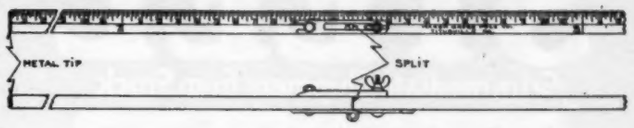
The second curve represents the average results from seven plants for their respective total fuel requirements. The percentage of fuel required for operating, based on the inlet gas, varies with the size of the plant. It is ordinarily possible to operate the larger plants more efficiently than the smaller ones, where excess capacity must be kept operating to insure contiuous performance. Lean gas is usually handled in large plants, whereas rich gas, which is ordinarily the result of marked depletion in gas volume, is usually handled in small plants. The rich gas plant uses proportionately more fuel on the average, as it ordinarily operates under a high vacuum requiring maximum vacuum horsepower. Such equipment as boilers, pumps, stills, etc., are dependent largely on the gallons of gasoline involved, and the fuel requirements for such equipment are therefore greater per thousand feet on rich gas than on lean gas. The difference in the type of engines, whether two cycle or four cycle, and load under which the engines operate, compared to their rated load, are also factors, it is noted that the points determined for the seven plants fall relatively closely along the average curve as drawn. The fuel requirements vary from a theoretical minimum of approximately 5 per cent at zero yield, to 40 per cent on rich gas.

By subtracting from any point on the first curve drawn, the percentages required for fuel as indicated by the plant fuel curve for the same yield in gallons per thousand, there is determined for that yield of gas the percentage remaining after gasoline extraction and plant use. By applying this principle, points in sufficient number are determined to draw the final curve which is shown on the chart as a full line indicating the volume remaining after gasoline extraction and plant use, and which is available for return to the leases.

Examples Cited

This may be made more clear by selecting a few points and going through the process indicated. For instance, at 4.5 gallons per thousand, the volume remaining after gasoline extraction alone is found from the first curve to be 70 per cent. The fuel requirements at this yield are found from the second curve to be 20 per cent. The volume remaining after gasoline extraction and plant use is therefore 50 per cent, which will be found to correspond with the final curve. Another example might be taken at 6.8 gallons per thousand, where the volume remaining after gasoline extration alone is found to be 60 per cent from the first curve, the fuel requirements are found to be 25 per cent from the second curve and the volume remaining after gasoline extraction and plant use is the difference, or 35 per cent, which corresponds to the full line curve. The first and second curves which are shown dotted are included on the chart merely to indicate the method of deriving the final curve which is shown in the full line. This full line curve is intended to be used in all cases to represent the volume remaining after gasoline extraction and plant use, which volume would be available for return to the leases. It will be noted that this curve crosses the zero

GAUGE POLES
Any Length **For Oil Measurements**



"MARSH-JOINT"

For sale by oil country supply houses or furnished promptly by the factory at Titusville, Pa.
Correspondence Solicited
MARSH GAUGE POLE COMPANY
TITUSVILLE, PA

Reading 400 lb. WSP Steel Gate Valve

Reading steel gate valves look simple. They *are* simple. Yet each valve embodies 15 special features worthy of your consideration as a valve user. Write for illustrated booklet.
Reading Steel Casting Co., *Inc.*
Reading Valves and Fittings Division
Bridgeport, Connecticut
Offices and Warehouses in Principal Cities
READING *for* Steel
PRATT & CADY *for* Iron *and* Bronze
specializing for quality valves and fittings

ABSOLUTE SAFETY ABSOLUTE SAFETY
Use
GELATIN
(Look for the Mark)
For Oil Well Shooting
Made for and used by
THE STANDARD TORPEDO CO.
M. M. Kinley, Mgr.
OIL WELL EXPLOSIVES
L. F.
Specially Manufactured for Standard Torpedo Co. Tulsa, Okla.
Office Phone 3-1410
Night Phones 3-9357—9460
Office
845 Kennedy Bldg
Tulsa, Okla.
Expert Services Extinguishing Oil and Gas Fires

THE VOGT BROTHERS OIL PUMP
FOR 600 LBS. WORKING PRESSURE

Good Pumps Since 1891
Our complete line makes us the largest builders of pumps in the south.
VOGT BROTHERS MFG. CO.
(NATIONAL FOUNDRY & MACHINE CO.)
INCORPORATED
LOUISVILLE, KENTUCKY
U. S. A.

STEEL

for Immediate Shipment from Stock

Bars, Plates, Rivets, Tool Steel, Shapes, Sheets, Bolts, Welding Rods, Structurals, Tubes, Wire, Concrete Reinforcing, Rails, Pipe, Turnbuckles, Small Tools, Machine Tools, etc.

Write for Ryerson Journal and Stock List

JOSEPH T. RYERSON & SON INC.

CHICAGO
ST. LOUIS
CINCINNATI

TULSA OFFICE—418 ATLAS LIFE BLDG.
HOUSTON OFFICE—220 MAIN ST.

DETROIT
BUFFALO
NEW YORK

DIXON'S Silica Graphite PAINT

Because of its better protective qualities makes frequent repairing unnecessary and so gives better protection at lower cost.

It is a natural combination of flake silica-graphite. The vehicle is best boiled linseed oil. It will not peel, crack or flake off because of the natural elasticity of flake graphite, while the silica is an anchor that withstands wear.

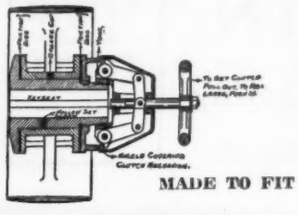
Write for Booklet No. 188B

JOSEPH DIXON CRUCIBLE COMPANY
Jersey City, New Jersey
Established 1827

180

HAVANA

DOUBLE GRIP FRICTION CLUTCH PULLEY



Here is a strong, durable, double grip friction clutch pulley that is easily attached (without aid of skilled mechanic) and has a reputation for service.

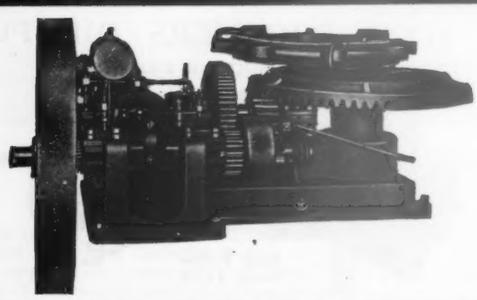
Notice in the illustration how strong Havana pulleys are made—they last a lifetime.

MADE TO FIT ALL KEROSENE AND GASOLINE ENGINES

Write for prices and catalog. Don't buy until you learn more about the Havana. Sold by leading jobbers everywhere.

HAVANA MFG., CO.

117 N. Pear St. HAVANA, ILL.



If you want a combined engine and power complete in every detail, an acknowledged success and in use by the biggest operators, we offer the Spence 10½ H.P. for $650.00. Will and does satisfactorily pump four 2000 foot wells or their equivalent. We also manufacture and sell the Reliable power similar in construction at $440.00. This power will pump four 1000 foot wells or their equivalent. Over 1000 in operation.

Tool boxes, forges, etc. in stock.

Write for Catalogue.

THE SPENCE MACHINE COMPANY
Parkersburg, W. Va.

line at 12.7 gallons per thousand feet, indicating that, for gas richer than this, there is insufficient residue to satisfy the fuel requirements of the plant itself.

For convenience, the values from the curve are tabulated below:

Net yield of Casinghead gas Gals./1,000 ft	Volume remaining after Gasoline extraction and plant use
0.5	88%
1.0	83
2.0	73
3.0	63
4.0	54
5.0	46
6.0	38
7.0	31
8.0	25
9.0	19
10.0	14
11.0	9
12.0	4

For Guidance of Operators

The Association of Natural Gasoline Manufacturers submits this curve for the use and guidance of plant operators to determine the volume of residue gas which may be expected from any given quality of casinghead gas. The data has been taken and assembled as painstakingly as possible, and represents the average results from a number of plants. It is natural that individual plants will vary slightly from the results of any average curve, but ordinarily the results of a single plant cannot be used to cover all of the casinghead gas being purchased by that plant. This is due to the fact that ordinarily various qualities of gas are handled at any one plant and the data to be obtained from any one plant would merely give one point representing the average yield of the plant. It is not equitable to pay the producer of rich gas in accordance with the ordinary scheduled method of payment and allow him residue gas at the percentage corresponding to the average yield of the plant. Such a procedure would act to penalize either the gasoline plant operator or the producer of gas leaner than the average to whom a volume greater than the average percentage is due.

It must be recognized in order to debit the payment to gas producers with charges for excess residue consumption, that the wording of the contract must require the gasoline plant operator to deliver not more than the volume remaining after gasoline extraction and plant use. It may be possible in some cases, where the contract does not permit of this interpretation, to have the producer enter into a supplemental agreement to permit such charges for excess residue because of the justice of the claim, or in exchange for some other consideration. It is suggested that where a gasoline plant operator contemplates making charges for residue in excess of that required by the contractor, that he advise the producer of such intention, including the price at which such excess gas will be supplied. The volume of gas used by the producer for operating his lease may, in some cases, be estimated very accurately, whereas in other cases a meter will be required for this purpose. It has been found in practice, that the assessment of charges for excess residue has induced an economy in its use on the part of the producer, which was not previously thought possible. It has been an incentive toward abandoning the wasteful practice of operating wells with individual gas engines, substituting instead operation by powers or rod line connections from one operating well to others. Where return gas is metered and the excess paid for, leakage from wet gasometers and similar causes is of financial interest to the producer and not merely an annoyance and expense to the plant operator.

The committee which has had this work in hand trusts that these results will be a material contribution to the general knowledge of the natural gasoline industry and that it will be a means of determining equitably the respective rights of the oil producer and the natural gasoline manufacturer in the matter of residue gas.

OKLAHOMA CHARTERS

OKLAHOMA CITY, Okla., April 25.—The Larutan Fuel Co., a Delaware corporation, recently organized to lay a gas pipe line into Kansas from Kay County,

JOHN L. RICH
PETROLEUM GEOLOGIST
OTTAWA, KANSAS

L. G. Huntley Stirling Huntley
HUNTLEY & HUNTLEY
PETROLEUM GEOLOGISTS AND ENGINEERS
Frick Building PITTSBURGH, PA.

FREDERICK G. CLAPP
Consulting Geologist and Petroleum Engineer
30 Church St., New York City

JOSEPH L. ADLER
CONSULTING GEOLOGIST
DENVER, COLO.
1115 First National Bank Bldg.

Robert H. Wood Virgil O. Wood
WOOD & WOOD
GEOLOGISTS AND PETROLEUM ENGINEERS
Phone 2-1725
302 Commercial Bldg.
TULSA, OKLA.

CARL B. ANDERSON
GEOLOGIST AND PETROLEUM ENGINEER
804 Kennedy Bldg.
TULSA, OKLA.

CHARLES T. KIRK
CONSULTING GEOLOGIST
American and Foreign Fields
Phones 2-2821—2-9504
Suite 523 Mayo Bldg.
TULSA, OKLA.

Appraisals Investigations
SAMUEL J. CAUDILL
PETROLEUM ENGINEERS
TAX COUNSELLORS
Tulsa 1014 Atlas Bldg. Los Angeles 433 Security Bldg.

Wilbur E. Brown G. Thomsen, Jr.
BROWN & THOMSEN
GEOLOGISTS
419 West Grand Ave.
OKLAHOMA CITY, OKLA.

H. H. MESSIMER
Tang Gauging Engineer
MACHINE MADE TANK TABLES
ABSOLUTE ACCURACY
P. O. Box 257 104 Mid-Co Bldg.
Phone 2-4909—Tulsa, Okla.

ROBERT W. CLARK
CONSULTING GEOLOGIST AND APPRAISER
Depletion and Reserves for Income Tax
217 Commerce Bldg.
OKMULGEE, OKLA.

BROKAW, DIXON, GARNER & McKEE
GEOLOGISTS
PETROLEUM ENGINEERS
Examinations, Appraisals
Estimates of Oil Reserves
120 Broadway New York

Amil A. Anderson P. W. Anderson
ANDERSON & ANDERSON
Mining Engineers and Petroleum Geologists
304 Bitting Building
Wichita, Kansas
Telephone Market 2887

ROBERT W. HUNT CO.
Inspecting and Testing Engineers
Inspection of Oil Line Pipe, Oil Well Casing, Tanks, Drums and Barrels
Inspection During Manufacture
Resident Inspectors at Pipe and Steel Mills
2200 Insurance Exch., Chicago

H. H. HOOD
PETROLEUM ENGINEER
AND GEOLOGIST
Explorations, Surveys, Appraisals, Audits, Consultations, Management
1310 Chemical Bldg., St. Louis, Mo.
1839 McCormick Bldg., Chicago

IRVINE E. STEWART
GEOLOGIST
Great Falls, Montana
421 Ford Building
Denver, Colorado
926 Patterson Building

HEATH M. ROBINSON
GEOLOGIST
804 American Exchange Bank Bldg.
DALLAS, TEXAS
Telephone X2738

GEO. C. MATSON
GEOLOGIST
2-2049—Phones—2-1833
406 Cosden Bldg. Tulsa, Okla.

Frank A. Herald John M. Herald
HERALD BROTHERS
GEOLOGISTS
PETROLEUM ENGINEERS
303 Cosden Bldg. Phone 3-8711
TULSA, OKLAHOMA

JAMES O. LEWIS
PETROLEUM ENGINEER AND GEOLOGIST
724 Kennedy Bldg. Tulsa, Okla.

DEWITT T. RING
PETROLEUM GEOLOGIST
Armstrong Bldg.
El Dorado, Ark.

H. B. GOODRICH
PETROLEUM GEOLOGIST-ENGINEER
Phone 2-9268—2-8228
1027 Kennedy Building Tulsa, Okla.

Oklahoma, has been admitted to Oklahoma under domestic corporation rules. The capital investment in the States is $75,000.

A charter was issued recently to the Bartlett Gas Co., of Sapulpa, Okla., capital stock $300,000. The incorporators are H. U. Bartlett, H. E. Whitehead, and A. A. Hammer of Tulsa.

The Wetumka Gas Co., of Wetumka, has amended its charter to increase the R & M

COAL MEN PREDICTING EXHAUSTION OF OIL

WASHINGTON, April 25.—Although the United States has within its border the largest supply of fuel in the world, including oil, natural gas and coal, nothing will be left within a few decades except the coal, declares an exhaustive report prepared by a committee of experts for submission to the third biennial meeting of the International Chamber of Commerce at Brussels, June 21 to 27.

The report, which suggests possible ways of conserving the remaining solid fuel supplies of the country, was made public by the American section of the chamber. Among other things it urges electrification of railroads, with the use where possible, of hydro-electric power.

It is pointed out in the report that "imports, if possible, of liquid fuels may postpone their exhaustion for several decades, but it seems quite probable that by the year 1950 much the greater part of the natural liquid and gaseous fuels will have practically disappeared.

READ THE
Classified Wants
Pages 98-99-100
DO IT NOW
YOU MAY MISS A BARGAIN

Present methods of using coal are wasteful; new methods are becoming more and more urgent; the vast resources of fuel in oil shale reserves, several times greater than those of petroleum, are untapped, awaiting the time when they can be mined and marketed economically, the report says.

The committee which drafted the document was composed of Arthur D. Little, chairman, Boston; W. T. Coe, manager of the Consolidation Coal Co., London; C. E. Lesher, editor of the Coal Age, New York; Van H. Manning, former director of the research department of the American Petroleum Institute, New York; George Otis Smith, director of the United States Geological Survey, Washington, and Thomas H. Watkins, president of the Pennsylvania Coal & Coke Corp., New York.

Radical changes in the use of fuel, necessitated by the approaching exhaustion of domestic petroleum supplies, are foreseen by the committee.

PENNSYLVANIA TAX STAYS

HARRISBURG, Pa., April 25.—The Senate has passed finally the Wheeler bill continuing for two years the 2 cents a gallon tax on gasoline. The vote was 43 to 1. It is estimated the tax will net about $9,500,000 during the next two years. The money will be paid the motor fund for road purposes.

OPENS FORT WORTH OFFICE

The Waite Phillips Co., oil operators, has opened offices at 1501 W. T. Waggoner building, Fort Worth, Tex. Gillette Hill, district superintendent, in charge of the office, announces the Fort Worth offices later are to become State headquarters.

NS Specializing in "LICKING TROUBLE"
NUGENT NS STEEL CASTINGS
NUGENT STEEL CASTINGS COMPANY
3100 South Wood St., Chicago

CARBON (BLACK DIAMONDS) FOR DIAMOND CORE DRILLS
IMPORTERS — INDUSTRIAL DIAMONDS — MANUFACTURERS — DIAMOND POINTED TOOLS FOR ALL MECHANICAL PURPOSES
WRITE OR WIRE FOR CATALOGUE AND FULL PARTICULARS
THE DIAMOND DRILL CARBON CO.
61 PARK ROW, NEW YORK, N.Y. CABLE ADDRESS, CHEQUETAN, N.Y.

Essential Where Oil is Used As Fuel
For maintaining a fixed discharge pressure in oil lines, the Fisher Oil Pump Governor Type 56 offers advantages never presented before. Write for Bulletin 602.
THE FISHER GOVERNOR CO.
366 Fisher Ave. Marshalltown, Iowa

VALVES and FITTINGS for Every Oil Country Service
THE KELLY & JONES CO.
WORKS - GREENSBURG PENNA.
BRANCH STORES AND OFFICES | NEW YORK - PITTSBURGH - CHICAGO - CINCINNATI BUFFALO - ST. LOUIS - SAN FRANCISCO

John M. Spellman
U. S. PATENT LAWYER
PATENTS, TRADE-MARKS, COPYRIGHTS
SPECIALIZING IN INCOME TAX MATTERS
Practice before the Supreme Court of the United States, Appellate Courts, the Departments of the Federal Government and Mexican Claims Commissions. Representative attorney at Washington for non-resident attorneys and accountants.
McGILL BLDG., WASHINGTON, D. C. MAGNOLIA BLDG., DALLAS

STEEL PLATE CONSTRUCTION
Steel oil storage tanks, Condensers, Stills, Refinery equipment of every kind, Fabricated and Erected
RITER-CONLEY COMPANY
General Offices—Pittsburgh, Penna.

Buff & Buff Mfg. Company
"In the highest wind, when the observer has difficulty in bracing himself—our BUFF transit does not show the slightest vibration thru the telescope."—Chief Eng'r.
Write for the BUFF Catalog No. 241
All Kinds for Oil Field Exploration.
Boston 30, Mass., U. S. A.

Oklahoma-Kansas and Eastern Pipe Line Report

GROSS PRODUCTION IN THE UNITED STATES FOR 12 MONTHS

OKLAHOMA-KANSAS PIPE LINE STATEMENT FOR FEBRUARY

Runs

Company—	Month	Daily Average
Prairie P. L. Co.	3,108,000	111,000
Gulf P. L. Co.	1,085,624	38,772
Texas P. L. Co.	342,603	12,236
Magnolia Pet. Co.	907,015	32,393
Cosden P. L. Co.	802,229	28,651
Empire P. L. Co.	1,000,485	35,732
*Sinclair P. L. Co.	1,148,000	41,000
*Other lines	7,700,000	275,000
Total Feb.	16,093,956	574,784
Total Jan.	17,839,078	575,454
Difference	1,745,022	670

Shipments

†Prairie P. L. Co.	4,322,556	154,377
Gulf P. L. Co.	1,150,280	41,081
Texas P. L. Co.	680,924	24,319
Magnolia Pet. Co.	1,276,146	45,577
Cosden P. L. Co.	876,652	31,309
Empire Pipe Line Co.	909,619	32,486
†Sinclair P. L. Co.	2,248,987	80,321
*Other lines	7,840,000	280,000
Total Feb.	19,305,164	689,470
Total Jan.	20,946,691	675,699
Difference	1,640,547	13,771

Stocks

*Prairie Oil & Gas Co.	25,400,000
*Prairie Pipe Line Co.	2,000,000
Gulf Pipe Line and Gypsy Oil Co.	9,942,053
The Texas Co. and Texas P. L. Co.	4,706,419
Magnolia Petroleum Co.	8,702,580
Cosden Pipe Line Co.	2,360,698
Empire Pipe Line Co.	3,074,864
*Sinclair Crude Oil Purchasing Co.	27,400,000
Carter Oil Co.	16,951,857
*Other lines	10,000,000
Total February	110,538,471
Total January	112,728,264
Difference	2,189,793

*Estimated. †Prairie shipments include Texas crude oil and Sinclair shipments include Texas and Wyoming crude oil.

Note Stocks do not include approximately 9,000,000 bbls. held in storage on private tank farms and leases.

Runs From Wells

In the following table will be found the regular receipts from wells by various pipe lines in New York, Pennsylvania, West Virginia, Ohio, Kentucky and Indiana for February and March:

	Feb., '25	Mar., '25
Nat. Transit	152,089.01	169,772.00
S. W. Pa. P. L.	75,044.66	83,742.71
Eureka P. L.	323,694.15	346,441.88
Buckeye P. L. (Macksburg)	257,192.02	285,108.00
Buckeye P. L. (Cleveland)	11,467.59	13,403.55
Buckeye P. L. (Lima, etc.)	121,219.85	132,914.79
Indiana P. L.	10,117.61	12,500.80
Cumberland P. L.	290,358.12	316,783.86
N. Y. Transit	18,156.30	20,196.49
Tidewater P. L.	123,151.77	142,538.93
Pure Oil	169,180.29	191,874.62
Emery P. L.	41,770.44	47,408.71
Indian Ref.	67,797.15	77,750.43
Paragon Dev.	29,522.74	17,370.31
Pittsburgh P. L.	7,359.37	8,470.60
Riggs Ref.	8,851.29	11,570.08
Total	1,696,963.36	1,877,817.76
Daily average	60,605.83	60,574.77

Note — Indian Refining Co. also reported other receipts of 307,708.21 bbls. Paragon Refining Co. had other receipts of 185,-369.51 bbls. Paragon Development Co. had other receipts of 3,315.80 bbls. Pittsburgh Pipe Line had other receipts of 2,739.07 bbls.

Petroleum Deliveries

The following tables exhibit the shipments or regular deliveries of various pipe lines in New York, Pennsylvania, West Virginia, Ohio, Kentucky and Indiana for February and March:

	Feb., '25	Mar., '25
Nat. Transit	426,389.57	630,179.68
S. W. Pa. P. L.	333,592.35	372,161.19
Eureka P. L.	130,288.49	140,554.54
Buckeye P. L. (Macksburg)	95,657.49	94,087.14
Buckeye P. L. (Cleveland)	1,212.97	1,406.54
Buckeye P. L. (Lima, etc.)	754,903.48	791,406.18
Indiana P. L.	1,068,925.14	1,005,156.39
Cumberland P. L.	142,109.90	192,372.05
Crescent P. L.	.....	8,357.38
N. Y. Transit	700,076.38	551,009.09
Northern P. L.	118,854.01	136,435.26
Tidewater P. L.	99,605.73	161,370.53
Pure Oil	124,856.42	196,446.91
Emery P. L.	38,829.91	44,477.57
Paragon Ref.	99,542.91	68,165.00
Indian Ref.	334,417.14	366,073.95
Paragon Dev.	37,650.36	20,019.17
Pittsburgh P. L.	7,261.61	12,151.49
Total	4,504,173.81	4,792,329.06
Daily average	160,863.35	154,591.26

Gross Stocks

The gross stocks held by various pipe lines in the oil producing section of New York, Pennsylvania, West Virginia, Ohio, Indiana and Kentucky at the close of February and March were as follows:

	Feb., '25	Mar., '25
Nat. Transit	1,035,423.87	1,068,609.40
S. W. Pa. P. L.	686,629.94	746,167.41
Eureka P. L.	1,640,003.77	1,479,626.62
Buckeye P. L. (Macksburg)	269,748.41	243,240.44
Buckeye P. L. (Cleveland)	43,206.35	30,203.54
Buckeye P. L. (Lima, etc.)	3,491,690.20	3,358,207.59
Indiana P. L.	627,221.38	618,007.02
Cumberland P. L.	607,314.58	571,809.44
Southern P. L.	431,908.22	432,379.30
Crescent P. L.	58,244.28	49,923.81
N. Y. Transit	684,490.18	808,123.81
Northern P. L.	1,022,829.08	1,021,796.61
Pure Oil	454,163.71	446,021.83
Emery P. L.	11,400.75	14,313.36
Paragon Ref.	34,625.73	151,287.77
Indian Ref.	76,538.11	97,438.34
Paragon Dev.	8,591.88	9,158.55
Pittsburgh P. L.	5,210.04	4,602.85
Riggs Ref.	3,683.39	7,378.90
Total	11,192,923.90	11,158,296.59
Decrease	160,351.76	34,627.31

Grades of Oil

The following table shows the amount of the different grades of oil held by the eastern pipe lines at the close of February and March showing the gross stocks of the above fields:

	Feb., '25	Mar., '25
Pennsylvania	3,888,928.59	3,789,999.21
Lima	1,268,514.45	1,307,447.59
Kentucky	1,442,094.26	1,387,170.92
Mid-Continent	4,563,791.51	4,621,707.74
Illinois	29,595.89	51,971.13
Total	11,192,923.90	11,158,296.59

Daily Average Runs

The following table shows the daily average runs of the Pennsylvania, Lima and Kentucky oil fields for the past four years:

	1922 - 1923	1924	1925
January	67,702 75,790	62,638	56,831
February	75,096 71,092	68,023	60,606
March	78,531 76,592	68,721	60,575
April	75,462 75,614	71,058	.....
May	77,592 77,365	63,942	.....
June	76,193 77,593	63,230	.....
July	76,435 71,879	64,208	.....
August	79,387 76,910	59,942	.....
September	78,513 72,358	62,930	.....
October	77,209 76,256	64,976	.....
November	75,313 70,762	56,262	.....
December	73,351 69,271	56,814	.....

Daily Average Shipments

The following table gives daily average shipments from the Pennsylvania, Lima and other fields for the past four years:

	1922	1923	1924	1925
January	119,792	171,067	145,518	157,889
February	111,362	164,219	148,732	160,868
March	127,753	185,487	147,098	154,591
April	127,068	170,751	147,611	.....
May	127,840	177,102	134,997	.....
June	137,638	173,598	143,010	.....
July	137,872	168,330	124,187	.....
August	163,275	142,766	123,120	.....
September	158,761	137,266	127,325	.....
October	165,345	134,597	123,170	.....
November	165,677	131,426	124,400	.....
December	172,861	139,909	151,392	.....

Gross Stocks

In the following table will be found the gross stocks of the various lines of the Pennsylvania, Lima and Kentucky oil fields, including oil received from other lines, at the close of each month for the past three years:

	1923	1924	1925
January	14,040,567	12,907,202	11,353,771
February	14,028,437	11,844,068	11,192,924
March	13,873,146	10,906,752	11,158,297
April	13,737,575	10,922,742	.....
May	13,815,622	11,335,309	.....
June	14,541,253	11,544,204	.....
July	14,645,584	12,062,361	.....
August	14,770,539	12,221,676	.....
September	14,803,444	12,206,836	.....
October	14,504,111	12,664,061	.....
November	14,157,726	12,268,530	.....
December	13,444,361	11,583,680	.....

Franklin Pipe Line Co.

The following table exhibits the condition of the Franklin Pipe Line at the close of business for the months named and not counted in the stocks and averages reported above:

1924—	Receipts	Shipm'ts	Stocks
March	3,398.74	1,716.28	11,776.40
April	3,311.84	2,066.78	13,021.54
May	3,036.50	5,338.21	10,699.33
June	3,188.31	407.01	13,481.13
July	3,067.74	3,334.29	13,214.58
August	901.36	6.31	14,109.75
September	3,794.58	5,775.89	13,128.43
October	3,342.40	1,880.50	14,590.33
November	2,700.13	482.89	12,437.56
December	3,120.34	2,659.13	12,898.77
1925—			
January	1,730.86	1,681.15	12,938.48
February	2,702.05	4,564.76	11,076.31
March	3,177.21	2,364.36	11,889.74

The Illinois Field

The following table gives the report of the Illinois Pipe Line Co. in Illinois:

Gross stocks, April 1	2,038,220.71
Runs from wells	725,699.71
Other receipts	333,501.43
Regular deliveries	532,900.71
Other deliveries	763,222.13

The amount of Illinois oil run by the Tidewater Pipe Line Co. in March was 21,-635.95 bbls. and deliveries were 77,357.71. Adding these figures to those of the Illinois Pipe Line Co. makes the runs and deliveries from the Illinois Field as follows:

1924—	Runs	Deliveries
March	611,288.36	369,542.51
April	514,356.43	339,546.19
May	751,080.44	519,414.61
June	726,060.87	528,403.33
July	759,646.84	552,326.50
August	720,457.72	519,335.79
September	714,875.36	535,763.50
October	741,767.42	542,361.77
November	650,147.63	521,459.31
December	640,919.23	593,942.38
1925—		
January	695,513.43	572,204.77
February	636,635.20	514,661.53
March	754,335.68	611,340.49

The Tidewater Pipe Co., Ltd., also delivered in March 289,226.38 bbls. of Oklahoma oil. The total deliveries of all grades by the Tidewater were 527,954.62 bbls.

AVERAGE WEEKLY RECEIPTS OF CALIFORNIA OIL AT ATLANTIC AND GULF PORTS

Average bbls. per week—	ATLANTIC PORTS Baltimore	Boston	New York	Philadelphia	Others	Total	GULF COAST PORTS Galveston	New Orleans Baton Rouge	Port Arthur Sabine Pass	Tampa	Total	Total All Ports
October	85,379	49,000	391,069	85,603	36,127	784,056	.....	.....	.....	.....	.....	784,056
November	119,469	52,031	527,948	38,031	37,321	637,931	.....	.....	.....	.....	.....	637,931
December	57,127	16,709	386,806	21,067	18,291	561,540	.....	21,000	.....	.....	21,000	582,540
January	86,933	16,030	310,933	75,418	58,709	548,023	.....	.....	.....	.....	.....	548,023

AVERAGE WEEKLY IMPORTS OF PETROLEUM AT PRINCIPAL UNITED STATES PORTS

Average bbls. per week—	ATLANTIC PORTS Baltimore	Boston	New York	Philadelphia	Others	Total	GULF COAST PORTS Galveston	New Orleans Baton Rouge	Port Arthur Sabine Pass	Tampa	Total	Total All Ports
October	136,826	67,515	257,418	90,818	113,127	665,704	231,903	268,816	111,097	29,351	640,967	1,306,671
November	198,560	87,500	477,621	165,410	258,531	1,187,641	383,831	380,569	94,269	19,831	878,500	2,066,141
December	165,515	35,516	269,164	82,418	246,583	689,194	220,388	358,806	76,321	51,499	707,014	1,396,208
January	129,843	113,583	440,776	60,739	191,709	936,649	205,051	398,097	100,331	28,221	731,710	1,668,359

		California	Oklahoma	Texas	Kansas	Arkansas	Louisiana	Rocky Mountain	Eastern Fields	Total
March:	Month	19,913,262	13,336,851	12,044,503	2,306,426	3,882,695	1,701,593	3,827,304	2,250,600	61,143,134
	Daily average	642,363	430,221	388,532	74,175	125,247	54,890	123,460	104,858	1,973,004
April	Month	19,299,849	13,452,240	11,577,346	2,264,540	4,068,225	1,495,582	3,738,832	2,272,600	58,173,614
	Daily average	643,328	448,408	385,908	75,618	135,608	49,853	124,611	109,130	1,939,121
May	Month	19,833,576	14,247,697	11,623,395	2,459,765	4,659,117	1,596,701	3,866,910	2,264,000	61,550,961
	Daily average	639,792	459,603	374,948	79,347	150,288	51,507	124,710	105,042	1,985,499
June:	Month	18,807,999	14,447,390	11,602,350	2,469,280	4,756,443	1,812,550	3,928,534	2,253,600	60,788,596
	Daily average	626,933	481,580	386,745	82,313	158,548	60,429	131,284	108,453	2,026,379
July:	Month	19,274,755	15,191,860	11,917,137	2,671,053	4,597,969	1,815,966	3,768,398	2,371,600	63,667,736
	Daily average	621,766	490,060	384,424	86,195	148,322	58,580	121,561	108,761	2,019,027
August:	Month	19,112,998	16,525,356	11,808,876	2,717,398	4,359,241	1,703,525	3,749,375	2,386,000	63,361,769
	Daily average	616,548	533,076	380,931	87,658	140,621	54,920	120,948	106,000	2,046,702
September:	Month	18,308,233	16,399,030	11,089,493	2,638,900	4,029,535	1,796,575	3,330,007	2,150,000	60,660,773
	Daily average	610,274	543,301	369,650	87,963	134,318	59,853	111,000	101,936	2,021,359
October:	Month	18,696,559	16,189,898	10,942,005	2,768,455	3,923,696	1,774,707	3,058,268	2,395,000	64,808,588
	Daily average	603,115	522,255	353,000	89,305	126,506	57,249	98,654	109,516	1,961,047
November:	Month	17,767,084	15,955,620	10,731,264	2,597,460	3,461,050	1,965,921	3,788,110	2,941,000	59,207,459
	Daily average	592,234	531,854	357,709	86,582	115,035	65,531	92,937	98,033	1,940,946
December:	Month	18,795,136	16,031,135	11,264,915	2,537,443	3,380,511	1,870,876	3,202,882	3,006,250	59,185,794
	Daily average	606,294	517,135	363,384	81,853	109,049	60,351	74,287	96,402	1,908,555
January:	Month	18,743,288	15,462,800	13,790,196	2,520,358	3,278,484	1,774,972	3,697,674	2,965,993	61,245,806
	Daily average	604,622	498,800	444,845	81,316	105,758	57,386	92,903	95,677	1,976,335
February:	Month	16,869,833	13,905,780	11,361,896	2,466,660	2,836,296	1,547,416	2,666,335	2,905,000	54,560,216
	Daily average	602,494	496,635	405,782	88,095	103,082	55,265	95,226	103,750	1,948,593
	Total 12 months	225,422,512	181,045,707	139,753,274	30,223,333	47,343,262	20,853,514	39,361,237	38,157,243	722,160,087
	Daily average	617,596	496,016	382,886	82,804	129,708	57,133	107,826	104,540	

The ADVERTISERS' INDEX

A

Acme Fishing Tool Co. 126
Acme Petroleum Co. 150
Adler, Joseph L. 37
Ajax Iron Works 88
Ajax Rope Co., Inc. 148
Alexander, Clive M. 148
American Appraisal Co. .....
American Cable Co. .....
American Car & Foundry Co. .....
American Cast Iron Pipe Co. .....
American Radiator Co. 49
American Schaeffer Budenburg Corp.
American Sheet & Tin Plate Co. .....
American Tank Co. .....
American Telephone and Telegraph Co. .....
Ames Shovel & Tool Co. 143
Amdyco Corporation .....
Anderson, Carl B. 150
Anderson & Anderson 151
Andrews Steel Co. 137
Arbon, Paul & Co. .....
Armstrong Bros. Tool Co. 146
Athey Truss Wheel Co. 79
Atlas Ball Co. 90
Austin Co. .....
Axelson Machine Co. .....

B

Baash-Ross Tool Co .....
Baker Casing Shoe Co. 147
Barber-Greene Co. .....
Barnes Manufacturing Co. 116
Barnickel, Wm. S. & Co. 73
Barnsdall Refining Co. 99
Bartlesville Supply Co. .....
Berwald Chemical Co. 149
Bessemer Gas Engine Co. 13
Bignall & Keeler Machine Works 139
Biggs Boiler Works Co. .....
Black, Sivalls & Bryson, Inc. 39
Blaw-Knox Co. .....
Borden Co. 112
Botfield Refractories Co. 110
Bovaird & Seyfang Mfg. Co. .....
Bovaird Supply Co., The 57
Braden Co., The .....
Bradford Motor Works 78
Bradford Rig & Reel Co. .....
Braun, C. F. & Co. .....
Bridgeport Machine Co. .....
Bristol Co. 104
Broderick & Bascom Rope Co. .....
Brokaw, Dixon, Garner & McKee 151
Brown Instrument Co. 140
Brown & Thomsen 150
Bruce-Macbeth Engine Co. .....
Buckeye Traction Ditcher Co. .....
Burns Tool Co. .....
Buff & Buff Manufacturing Co. .....
Burt Manufacturing Co. .....
Busch-Sulzer Bros. Diesel Engine Co.
Butler Manufacturing Co. 53

C

Capital Abstract & Realty Co. 147
Carbondale Machine Co. 86
Carnegie Steel Co. 147
Caudill, Samuel J. 150
Celite Products Co. .....
Central Steel Co. 111
Chain Belt Co. .....
Champion Machine & Forging Co. .....
Chaplin-Fulton Manufacturing Co. 148
Chapman Valve Manufacturing Co. Inside Front Cover
Chestnut & Smith Corp. .....
Chicago Bridge & Iron Works 41
Chicago Pneumatic Tool Co. 14
Clapp, Frederick G. 150
Clark Brothers Co. 54-55
Clark, Robert W. 150
Classified Wants 118-119-120
Climax Engineering Co. 143
Columbian Rope Co. .....
Columbian Steel Tank Co. .....
Columbus Sucker Rod Co. .....
Continental Motors Corp. 93
Continental Supply Co. .....
Cooper, C. & G. Co. .....
Cox & Sons Co., The .....
Crane Co. .....
Cunningham Co. .....
Cyclone Fence Co. .....

D

D. & B. Pump & Supply Co. .....
Darling Valve & Manufacturing Co.
Dart, E. M. Manufacturing Co. .....
Davis Regulator Co. .....
Dawson Towel Supply Co. 147
Dayton Pipe Coupling Co. 109
Dearborn Chemical Co. .....
De La Vergne Machine Co. .....
Delta Electric Co. 104
Detroit Graphite Co. 113
Diamond Drill Carbon Co. 147
Dickey-Ashby Fountain Co. 147
Diamond Drilling & Exploration Co.
Dixon, Joseph, Crucible Co. .....
Donovan Boiler Works, Inc. 141
Dresser, S. R. Manufacturing Co. 27
Dunn Manufacturing Co. .....

E

Eagle Picher Lead Co. 2
Eastern Torpedo Co. .....
Edward Valve & Manufacturing Co.
Empire Refineries, Inc. .....
Equitable Meter Co. .....

F

Fairbanks-Morse & Co. .....
Federal Supply Co. 5
Fenwick-Reddaway Mfg. Co. 138
Fisher Governor Co. 151
Fleming Martin Undertaking Co. 148
Flexible Steel Lacing Co. .....
Foamite-Childs Corp. .....
Foggan, Geo. N. 150
Fohs, F. Julius 149
Foos Gas Engine Co. 138
Fort Worth Laboratories 148
Foster & Reiter 149
Foxboro Co., Inc., The 135
Franklin Valveless Engine Co. 103
Frick-Reid Supply Co. 35
Fulton Iron Works 107

G

Gantz Tank Co. .....
Gardner Governor Co. .....
Garlock Packing Co. .....
Garrett, M. M. 148
Gaso Pump & Burner Manufacturing Co. ..... Inside Back Cover
General American Tank Car Corp. ..
General Motors Truck Co. .....
Gomory, W. L. 149
Goodrich, B. F. Rubber Co., Inc. ..
Goodrich, H. B. 151
Goodyear Tire & Rubber Co. 94
Gould Burner Co. .....
Goulds Manufacturing Co. 150
Gott, H. P. Manufacturing Co. .....
Graver Corp. 82
Greene, Frank C. 149
Griscom-Russell Co. .....
Guiberson Corp. 8
Gurley, W. & L. E. 146

H

Halliburton, Erle P. .....
Harrisburg Pipe & Pipe Bending Co.
Havana Manufacturing Co. .....
Hazard Manufacturing Co. .....
Henry, George W. 147
Heppenstall, Forge & Knife Co. .....
Herald Brothers 151
Hercules Motor Corp. .....
Heydrick Mapping Co. 148
Hills-McCanna Co. .....
Hinderliter Tool Co. .....
Homestead Valve Co. .....
Hood, H. H. 151
Hoffman Manufacturing Co. .....
Hope Engineering & Supply Co. 80
Hough, Charles N. Mfg. Co. .....
Hughes Tool Co. ..... Back Cover
Hunt, Robert W. Co. 151
Huntley & Huntley 150

I

Illinois Glass Co. .....
Imperial Belting Co. .....
Imperial Brass Mfg. Co. .....
Ingersoll-Rand Co. 74
International Derrick & Equipment Co. 50-51
International Harvester Co. of America .....
Iron King Manufacturing Co. .....

J

Jarecki Manufacturing Co. 89
Johns-Manville, Inc. 101
Jones, S. M. Co. 115

K

Kansas City Bolt & Nut Co. .....
Kansas City Hay Press Co. 140
Kaw Boiler Works Co. .....
Kellogg, M. W. Co. 113
Kelly & Jones Co. 15
Kelly-Springfield Tire Co. 4
Kennedy Valve Manufacturing Co. ..
Kerr, John B. 149
Keuffel & Esser 145
Kewanee Boiler Co. .....
Kinney Manufacturing Co. 140
Kirk, Charles T. 150

L

Lafe Speer Abstract Co. 147
Landis Machine Co. 3
Larkin & Co. .....
Layne & Bowler Co. 108
Leidecker Tool Co. .....
Lewis James O. 151
Linde Air Products Co. 1
Link-Belt Co. .....
Longhart Supply Co. .....
Longyear, E. J. Co. 149
Lucey Manufacturing Corp. .....
Ludlow Valve Manufacturing Co. 142
Lufkin Foundry & Machine Co. 105
Lufkin Rule Co. 149
Lunkenheimer Co. 69

M

Magnolia Petroleum Co. .....
Maloney Tank Manufacturing Co. 68
Manzel Brothers Co. 137
Marsh Gauge Pole Co. .....
Matson, George C. 151
Matteson, W. G. 149
Messimer, H. H. 150
Metric Metal Works .....
Miller Improved Gas Engine Co. ..
Miller, Max B. & Co., Inc. 12
Monarch Cement Co. 92
Moore, Lee C. & Co., Inc. 43
Munn & Co. 148
Myers, F. E., Bro. & Co. 146

Mc

McCord Radiator Manufacturing Co. 106
McGregor Working Barrel Co. 148
McIntosh & Seymour Corp. .....
McNutt, V. H. 149

N

National Carbon Co., Inc. 1
National Lead Co. .....
National Supply Co. 76-77
National Transit Pump & Machine Co. 70
National Turnbuckle Derrick Co. ....
National Tube Co. 71
Newton Process Co. 25
Norris Brothers .....
North American Car Co. .....
Northern Oil Information Bureau 148
Northrup Equipment Co. 146
Novo Engine Co. 9
Nugent Steel Casting Co. .....
Nuttall, R. D. Co. 33
Nye Tool & Machine Works 146

O

O'Brien Steel Construction Co. .....
Ohio Steel Foundry Co. .....
Oil Conservation Engineering Co. 75
Oil Well Improvements Co. .....
Oil Well Supply Co. 63
Okmulgee Boiler & Welding Works.
Oster Manufacturing Co. .....
Oxweld Acetylene Co. 1

P

Page Fence & Wire Products Association .....
Parkersburg Machine Co. .....
Parkersburg Rig & Reel Co. 83
Patrick, R. S. .....
Pattin Brothers Co. 100
Pennzoil Co., The .....
Petroleum Iron Works .....
Pforzheimer, Carl H. & Co. 145
Pioneer Tank & Boiler Co. 148
Pittsburgh-Des Moines Steel Co. ....
Pittsburgh Meter Co. 145
Pittsburgh Reinforced Brazing & Machine Co. 61
Plibrico Jointless Firebrick Co. ....
Powell, William Co. .....
Power Manufacturing Co. 6
Power Piping Co. 151
Power Specialty Co. .....
Prescott Co., The 98
Prest-O-Lite Co., Inc. 1
Producers & Refiners Corp. .....
Pure Oil Co. 97
Pyle-National Co. 31

R

Raines, Hariet L. 149
Reading Iron Co. .....
Reading Steel Casting Co., Inc. 81
Reed Roller Bit Co. 64-65
Regan Forge & Engineering Co. 45
Reid, Joseph, Gas Engine Co. 72
Republic Iron & Steel Co. .....
Republic Supply Co. 67
Rich, John L. 150
Ring, DeWitt T. 151
Riter-Conley Co. 151
Robinson, Heath M. 151
Rock Island Plow Co. 114
Roots, P. H. & F. M. Co. 7
Ross-Meehan Foundries 149
Ryerson, Joseph T. & Son 150

S

Schley, Jack A. 148
Scholtz, W. O. 110
Sherwin-Williams Co. .....
Shippers' Car Line Co. 145
Sinclair Refining Co. 131
Sivyer Steel Casting Co. 10
Slater Bros. Turnbuckle Derrick Co. 142
Smith, George H. Steel Casting Co. 151
Smith-Separator Co. 16
South Chester Tube Co. .....
Southern Cornice Works 151
Spang & Co. 85
Spellman, John M. .....
Spence Machine Co. .....
Spengler Core-Drilling Co. .....
St. Louis Steel Casting Co. .....
Stalder, Walter 149
Standard Engineering Co. 141
Standard Torpedo Co. .....
Stanley Belting Corp. .....
Star Drilling Machine Co. 91
Sterling Steel Co. 150
Stewart, Irvine E. 151
Sullivan Machinery Co. 114
Superior Tube Co. .....
Swartwout Co., The .....

T

Tagliabue, C J. Mfg. Co. .....
Taylor Instrument Co. .....
Taylor-Wharton Iron & Steel Co. ..
Templeton, Kenly & Co., Ltd. .....
Texas Co., The 102
Texas Gulf Sulphur Co. .....
Titusville Forge Co. .....
Titusville Iron Works 95
Toledo Pipe Threading Machine Co. 144
Trimont Manufacturing Co. 136
Trumble Gas Trap Co. 84
Truscon Steel Co. .....
Tulsa Boiler & Machinery Co. 144
Tulsa Ice Co. 147

U

United Iron Works 142
United States Cast Iron Pipe & Foundry Co. 116
U. S. Tool Co. .....
Universal Oil Products Co. 29

V

Vogt Brothers Manufacturing Co. ..
Vogt, Henry Machine Co. 11

W

Wall Rope Works, Inc. .....
Walworth Manufacturing Co. 47
Washburne, C. W. 149
Waukesha Motor Co. .....
Wertzberger Derrick Co. .....
Westcott & Greis 59
Westcott Valve Co. .....
Western Bank Supply Co. 147
Western Machinery Co. 117
Westinghouse Electric & Manufacturing Co. .....
White Co. .....
Wickwire Spencer Steel Co., Inc. ...
Wico Electric Co. .....
Williams, J. H. & Co. 151
Wilson Oil Tools Corp. ..... Front Cover
Wilson Welder & Metals Co. .....
Wirth, Alfred & Co. .....
Wood & Wood 150
Worthington Pump & Machinery Corp. .....
Wright, Harry F. 149
Wright Manufacturing Co. 139

Y

Yale & Towne Manufacturing Co. 96

Z

Zero Hour Torpedo Co. .....